

# American Fruit Grower

WESTERN EDITION

APRIL • 1953



• SECRETS OF FRUIT POLLINATION •

**THE BEL AIR SERIES**  
Four luxurious new models step out above and beyond the low-price field in everything but price itself.

**Widest, most wonderful choice in its field!**

***Chevrolet for '53***

**16 models in three great new series**

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Seven new models that give new meaning to the word de luxe. Superb quality and detail both inside and out.

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The thrifty "One-Fifty" series with five beautiful new models combines smart new Chevrolet style with new economy.

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\*Optional at extra cost. Combination of Powerglide and "Blue-Flame" engine available at extra cost on Bel Air and "Two-Ten" models. Power Steering available on all models. (Continuation of standard equipment and trim illustrated is dependent on availability of material.)

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But, this you can be sure of: Among Chevrolet's sixteen new models, you will find a car to strike your fancy and suit your need.

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# "We are using Black Leaf 253 again in 1953"

—says CARL G. WOOSTER, Union Hill, N. Y.

"WE USED BLACK LEAF 253 cover spray during the last two seasons, in 1951 and again in 1952," says Carl G. Wooster, leading apple grower of Union Hill, N. Y. "We have found it most satisfactory for control of codling moth, red-banded leafroller, green aphid and red mite. We intend to use Black Leaf 253 on apples again in 1953."

**Mr. Wooster** is only one of the many leading fruit growers who are switching to Black Leaf 253, the new, multi-purpose, summer cover spray. You, too, can produce bigger yields of clean fruit at lower cost, by using Black Leaf 253, the modern cover spray that is replacing old-fashioned, complicated, expensive programs.

**BLACK LEAF 253** controls codling moth, red-banded leafroller, leafhoppers, European red mite, red spider mite, San Jose scale, Forbes scale, and similar pests.

**BLACK LEAF 253** is Black Leaf Tobacco Base "impregnated" with 25% of DDT and 3% of Parathion by an exclusive process.

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**LESS RESIDUE.** Black Leaf 253 provides excellent control with minimum chemical residue and essentially no visible residue.

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Arsenate of Lead

BHC Wettable Powder 10%

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Dieldrin Wettable Powder 25%

Black Leaf 40 • Black Leaf 155

Black Leaf 253

Chlordane Wettable Powder 40%

Ferbam Wettable Powder 76%

Lindane Wettable Powder 25%

Malathion Wettable Powder 25%

Parathion Wettable Powder 15%

Parathion Wettable Powder 25%

Phygon Wettable Powder 50%

T.D.E. Wettable Powder 50%

T.D.E. 25% E. C. • T.E.P.P. 40%

T.E.P.P. 20%

Dusting Sulphur

In addition to the spray materials listed above, many other pest control products carry the famous Black Leaf trade-mark—insecticides, fungicides, weedicides and rodenticides. Write for full information on the complete line.



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A close-up of delicate pear blossoms is featured on our cover for this month. Photograph is by Bob Taylor.

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### AMERICAN FRUIT GROWER

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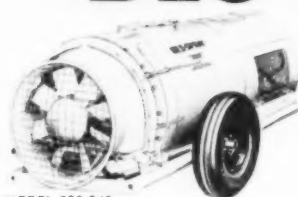
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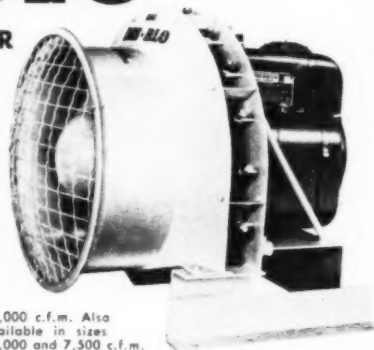
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WE OWN A

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PEORIA, ILLINOIS

# Everybody is talking about BEAUTIFUL APPLE FINISH and GREATLY IMPROVED STORAGE QUALITIES RESULTING from NEW FUNGICIDE DISCOVERY...



## **BETTER PRICES FOR RETAILERS**

Because ORTHOCIDE-protected apples have a beautiful finish they will be more attractive to consumers, which results in better prices and faster movement of this perishable merchandise.

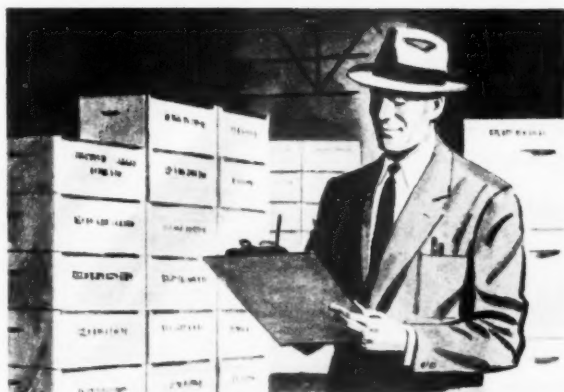


## **"HAVE NEVER SEEN APPLES WITH BETTER FINISH"**

A North Carolina grower writes: "At the last three fairs where we exhibited our apples we won first place on every entry. Never have we seen apples, especially the Golden Delicious, that had a better finish. We attribute the fine finish this year to ORTHOCIDE. I might add that it appears to control bitter rot effectively. As we had much less of it this year than in previous years when we used bordeaux."

# ORTHO CIDE!\*

\*A new organic fungicide, containing the new fungicidal chemical, Captan, chemically different from other fungicides now used. (A wettable product.)



## STORAGE QUALITY DEFINITELY IMPROVED

No factor is more important to apple distributors than keeping qualities of fruit. Repeated tests have shown ORTHOCIDE-protected fruit is cleaner, has better storage qualities.



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Harvest quality of ORTHOCIDE-treated peaches has been, in many cases, 80% improved and has proven definitely superior to fruit from sulfur-sprayed trees. Fruit packers will find ORTHOCIDE-treated fruit most likely to maintain its quality throughout the packing and marketing process.

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- Harvest quality improved—better fruit "finish"
- Improved storage quality—particularly on apples, pears and peaches
- Good plant safety
- Compatibility with most commonly used insecticides
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Intensive research by state and federal pathologists and commercial research workers has proven ORTHOCIDE an excellent control for some of the most important fungus diseases on tomatoes, cucumbers, and other cucurbits, potatoes, carrots, grapes, apples, peaches and many other crops. Other outstanding ORTHO sprays and dusts are:

**VAPOPHOS • ISOTOX • VAPOTONE • ORTHENE 3-D**

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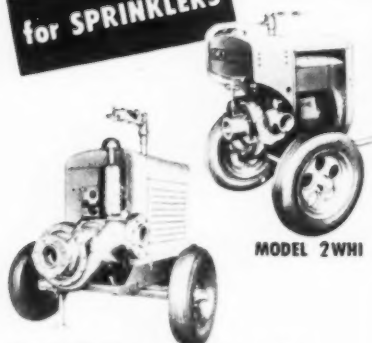
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there is a

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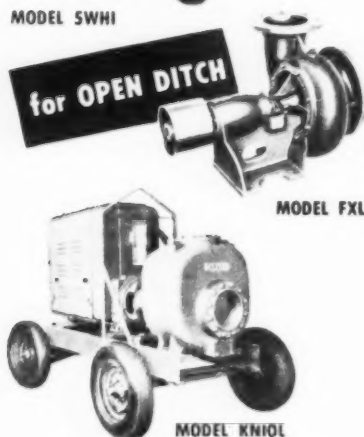
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1440 Hershey Ave.

Muscatine, Iowa

# CARVER PUMPS

# LETTERS TO THE EDITOR

## Understand Your Help

Dear Editor:

I would like to comment on John W. Hershey's recent comments in the "Letters to the Editor" column on Ralph Strong's letter about housing orchard help.

If Mr. Hershey really hates the people who work for him as much as he pretends, he had better plan on running his farm by machine with no human help. Sooner or later he will find it impossible to hire anyone at all.

Running a farm requires an understanding of people as well as plants, animals, machines, and soil. I am sure many farmers have failed because they were incompetent employers.

Bethel, Conn.

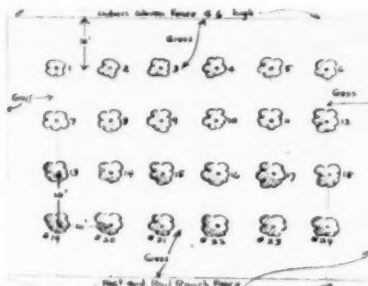
Robert Josephy

## A Miniature Orchard

Dear Editor:

Last fall I made a layout for an experimental dwarf orchard for Mr. J. Fleming Rutledge, Stamford, Conn.

The site was heavily overgrown with sumach, multitudinous weeds, and loaded with debris which had been dumped there over a period of 10 years.



## VARIETIES PLANTED

Number of Tree	Species	Variety
1	Apple	McIntosh
2	Pear	Bosc
3	Plum	Abundance
4	Peach	Hale
5	Apple	Golden Delicious
6	Nectarine	Boston
7	Nectarine	Sure Crop
8	Apple	Red Rome
9	Peach	Golden Jubilee
10	Plum	Burbank
11	Pear	Beurre Hardy
12	Cherry	Royal Anne
13	Apple	Roxbury Russet
14	Peach	Hale
15	Nectarine	Gold Mine
16	Plum	Victoria
17	Peach	Elberta
18	Apple	Calville Blanc
19	Nectarine	Newtown
20	Cherry	Schmidt Bigreau
21	Peach	Belle of Georgia
22	Apple	Red Delicious
23	Plum	Italian Prune
24	Peach	Champion

When the sumach and weeds had been cut to ground level with brush hooks, the soil was rough-dug to a depth of approximately seven inches using a small "Gem"

model Rotavator, or Howard Hoe. All sticks, stones, roots, and debris were taken out and the terrain was graded. We fertilized lightly, using a 5-10-5 formulation.

Mr. Rutledge and I discussed the new orchard with Henry Leuthardt of Port Chester, N.Y., one of the recognized authorities on the subject of dwarf and espalier fruit trees. At his suggestion I laid out six rows of four trees each. We planted the trees the end of October. The trees are all either two- or three-year olds and all apples are on Malling IX stock.

We are keeping extremely accurate records of every step of our venture from soil analysis to planting depth and temperatures.

Stamford, Conn.

Edward A. Connell

## Anthrax Cause of Winterkilling

Dear Editor:

In the November 1952 issue of AMERICAN FRUIT GROWER there appeared an article, "How to Reduce Winterkilling of Raspberries," by Charles A. Umosella. Two types of winterkilling were discussed. He reported that the first was caused by late fall growth of the canes, followed by early severe cold before the canes had matured sufficiently to withstand the cold. The second type of injury was caused by the initiation of growth by warm weather in the spring, followed by a sudden drop in temperature.

The fruit of the Washington red raspberry variety has the highest quality of all red raspberries tested in recent years at the Illinois Agricultural Experiment Station. However, it appears that this variety was not adapted to Illinois conditions. It has lacked vigor, producing only three- to four-foot canes; it has usually been winterkilled to within a few inches of the ground; and it has been extremely susceptible to anthracnose. Raspberries are usually not sprayed in order that records may be obtained on varietal resistance to this disease.

In 1951 and 1952 I sprayed a row of Washington red raspberries in my garden, using recommendations by H. G. Swartwout of the University of Missouri. A delayed dormant spray of 11 gallons of liquid lime sulfur per 100 gallons of water was applied as soon as young leaves became evident. Sprays of one and one-half pounds of 70 per cent ferbam per 100 gallons of water were then applied every 10 to 14 days until immediately before bloom. Just after harvest I sprayed the plants with a mixture of one and one-half pounds of 70 per cent ferbam and one gallon of summer oil per 100 gallons of water.

Practically no anthracnose lesions have been found on these plants since the old canes were removed immediately after harvest in 1951. Furthermore, the canes have reached six to seven feet in height; and in the spring of 1952, only one to six inches of the tips of the canes were found to be winterkilled.

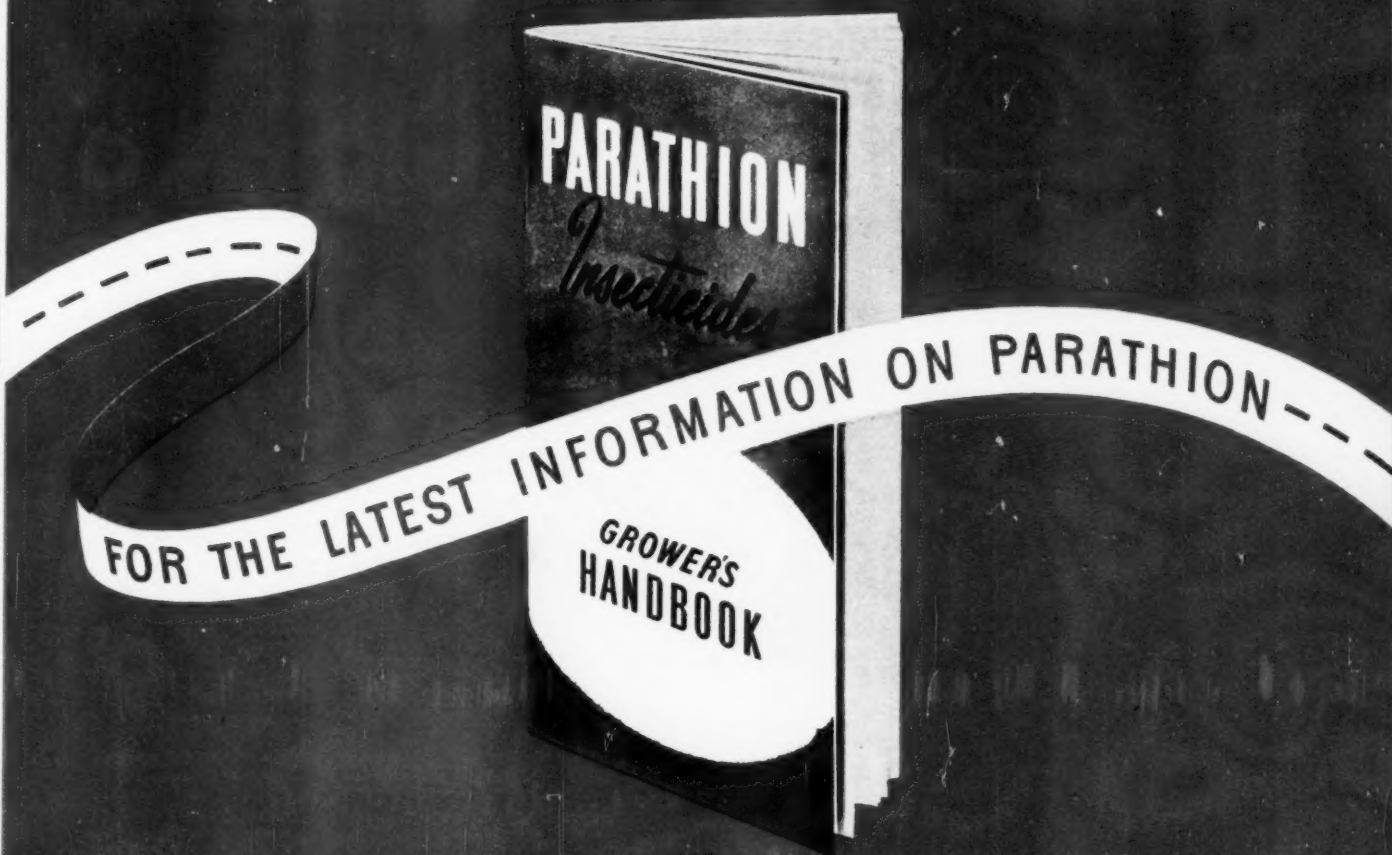
Apparently, severe anthracnose infection has been the major cause of the lack of vigor and of severe winterkilling of the Washington red raspberry at Urbana.

University of Illinois

Urbana, Ill.

Herschel L. Boli

AMERICAN FRUIT GROWER



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*Fertilizer Compound*

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Polychemicals Department, Wilmington, Delaware



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For example, here are the recommended spray materials for your petal fall sprays on Apples.

## For Scab:

- Ferbam Spray Powder (organic fungicide containing 70% ferric dimethyl dithiocarbamate)
- Puratized Apple Spray
- Puratized Agricultural Spray (organic fungicides)
- Micro-Dritomic\* Sulfur Fungicide

## For Codling Moth:

- Genitox S-50 and S-75 Spray Powders (contain 50% and 75% DDT)
- Lead Arsenate, Standard and Astringent
- Genithion P-15 (contains 15% Parathion)

## For Curculio:

- 50% Methoxychlor Spray Powder
- Genithion P-15 Spray Powder
- Lead Arsenate, Standard and Astringent

## For Aphids:

- Genithion P-15 Spray Powder
- Nicotine Sulfate Solution
- TEPP (40%)

## For Red-banded Leaf Roller:

- 50% (DDD) TDE Spray Powder
- Lead Arsenate, Standard and Astringent
- Genithion P-15 Spray Powder

## For Mites:

- Genite 883
- Genithion P-15
- Aramite

## Orchard Brand Products for fruit growers include:

GENITOX\* DDT PRODUCTS  
GENITHION\* PARATHION PRODUCTS  
BENZENE HEXACHLORIDE  
LINDANE  
LEAD ARSENATE (Astringent and Standard)  
GENITE\* ORGANIC MITICIDES  
(DDD) TDE PRODUCTS  
NICOTINE SULFATE  
METHOXYCHLOR  
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- Contains Naphthalene Acetic Acid with Alkyl Aryl Sodium Sulfonates

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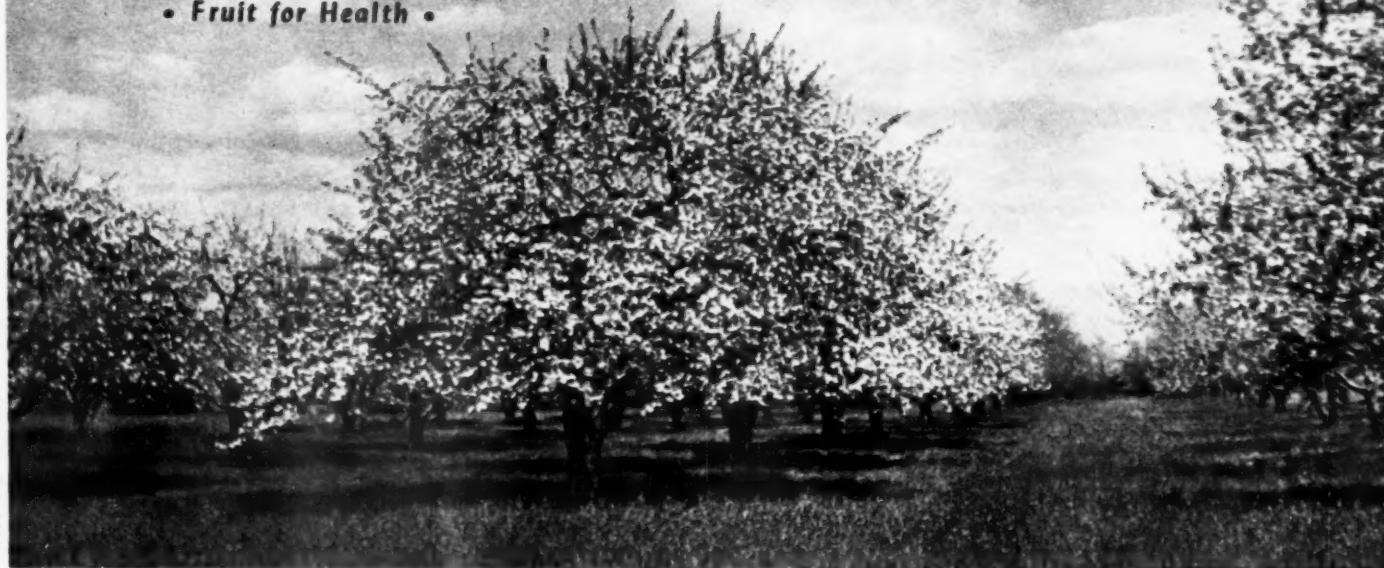
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## *Facts You Should Know About* **POLLINATION**

By **RICHARD WELLINGTON**  
*New York Agricultural Experiment Station*

**P**ROVIDING for pollination for many of our fruits when making new plantings is a "must" and fortunately this operation is well realized by most fruit growers.

Every year there are other growers, however, who ask why their trees fail to bear. Unfortunately, the grower who asks this question rarely furnishes enough information for an intelligent answer.

What variety does he have? What variety or varieties of the same kind of fruit are in the vicinity? Do the trees blossom? Are the trees making a vigorous and healthy growth? Are the young trees stimulated too much by heavy pruning and fertilization; in other words, are they making a strong vegetative growth rather than producing fruit buds?

Were the fruit buds winter injured? Did a late freeze injure or kill the blossoms? Was the weather too cold and wet for bee flight? Were the trees sprayed to prevent disease and insect injury? If more than one variety is being grown, did the trees bloom at the same time? Is one an

annual bloomer and the other a biennial? Do the varieties produce viable pollen? Are the varieties compatible with one another?

Any of these factors might have a bearing on the fruiting and unless they all are known an intelligent reply cannot be given. Injury to roots caused by cold, drought, blight, girdling by rodents beneath ground can also be a contributory cause.

If provisions have not been made for cross-pollination of compatible varieties, the grower can: 1) apply pollen by hand; 2) use bouquets; and 3) interplant or graft in compatible varieties. A minimum number to graft would be one tree in nine, that is, every third tree in every third row. Every tree would then be next to a pollinator. But until the pollinator produces sufficient bloom, methods one and two may be necessary.

As fruit tree pollen is carried by insects, wild or domesticated honeybees must be present. Bumblebees which fly when the weather is too inclement for domestic kinds are a valuable asset. If domesticated bees

are used, one strong colony is generally recommended to an acre.

The literature is full of reports on experiments and opinions on the pollination requirements of our various fruits. A. N. Duchesne of France noted the difference in sex in the strawberry as early as 1766 but little interest was taken in this fact until C. M. Hovey of Cambridge, Mass., introduced the Hovey variety over a century ago.

Considerable controversy arose between Hovey and Nicholas Longworth of Cincinnati, Ohio, before it was established that pistillate varieties had to be planted close to staminate varieties in order to secure a good yield. At the beginning of this century several important pistillate varieties, such as the Sample, were grown but fortunately the present strawberry breeders do not name varieties with imperfect blossoms.

A similar experience occurred with the grape. S. A. Beach, formerly of the New York Agricultural Experiment Station at Geneva, and his co-

*(Continued on page 34)*



Left—Healthy Marshall strawberry plant. Right—Marshall with virus from normal appearing Howard 17 (Premier). Howard 17 is more tolerant of virus than many varieties.

A form of virus common in strawberries in eastern U.S., as shown in *Fragaria vesca*.

## Research Leads the Way to VIRUS-FREE STRAWBERRY

By GEORGE M. DARROW, U. S. Department of Agriculture

IT HAS been known for over 20 years that virus diseases cause serious losses to strawberry growers of the Pacific Coast states but only within the last 10 years has the importance of virus diseases in the eastern states been recognized.

In December, 1951, J. B. Demaree and C. P. Marcus, Jr., of the USDA published the results of several years of work showing that nearly all strawberry plants of eastern United States were infected (see also *AMERICAN FRUIT GROWER*, March, 1950). In fact, in testing the most vigorous plants in an attempt to find virus-free ones, none of any variety from New England, New York, Ohio, Michigan, Wisconsin, and Minnesota and few from other states were obtained.

Though much research work remains, extensive research has made possible the production of virus-free plants that grow more vigorously and produce heavier crops than plants heretofore available to growers.

Contagious diseases of plants are caused by fungi, by bacteria, and by virus. Strawberry viruses are carried from plant to plant by aphids and after being injected by aphids into a plant multiply in the tissues and spread to all parts of the plant. Once a plant is infected, it and all runner plants propagated from it are infected forever.

In general, virus diseases weaken strawberry plants, causing them to be smaller and to produce fewer runners and healthy plants. If a young plant becomes infected, it is commonly dwarfed more quickly and severely than when an older plant becomes infected.

Several different viruses, or virus strains, are now known to infect strawberries. Two or more of the viruses, or virus strains, may be present in a plant, and are carried directly to daughter plants, or may be transmitted together by aphids. In general, symptoms in strawberry plants are more severe when two or more viruses are present than when only one occurs. Many stocks of plants now carry the multiple virus infection.

Virus diseases were recognized first on the Pacific Coast because the Marshall, the chief variety in that area, is quickly and severely injured by viruses and shows symptoms plainly. In contrast, most eastern varieties do not show virus symptoms so plainly. Actually, some eastern varieties show no specific symptoms when infected by virus. Table 1 classifies varieties according to the extent to which they show virus symptoms.

Table 1. Tolerance of Strawberry Varieties to Virus

No symptoms	Slight symptoms
Fairland	Blakemore
Northwest	Missionary
Temple	Howard 17 (Premier)
Klondike	Aroma
Klonmore	
Severe symptoms	Very severe
Massey	Dorsett
Sparkle	Fairfax
Redstar	Fairpeak
	Marshall
	Catskill
	Midland

It should be emphasized that some virus-infected plants of Catskill, Marshall, and Midland have been vigorous and have given good yields. We assume that such plants do not contain many viruses or that the virus strains are milder in them than in more severely affected plants.

The varieties showing no recog-

nizable symptoms, such as Fairland and Temple, may or may not be injured by viruses for we have no healthy plants with which to compare them. The varieties which show severe symptoms may be so severely weakened that many plants are killed out by drought or severe cold. Virus-infected plants of varieties showing intermediate damage may make fewer and weaker runner plants than healthy plants.

No varieties immune to virus are known. However, so-called straw-



Left—Normal-appearing Howard 17. Right—Howard 17 affected with "multiplier" virus, known only in northern Wisconsin.

berry virus has been proved to be a complex of several viruses. It is possible that the reason for the vigor of some of the varieties is that they are immune to some one virus of a virus complex. A tolerant variety, however, may be particularly dangerous for it may be a carrier of virus.

In experiments in England it was recently found that young plants of



*Fragaria vesca*, the wood strawberry, is used to test other plants for virus as it shows virus diseases plainest and quickest.

## PLANTS

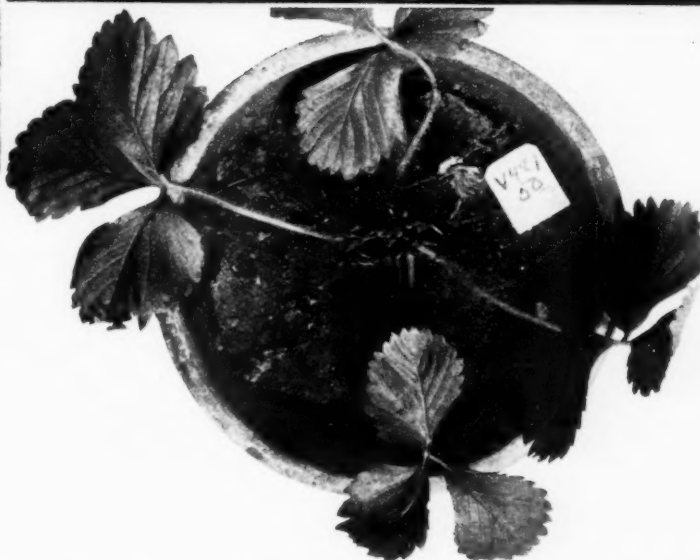


Catskill strawberry plants in these two rows are affected with virus, but in row to right disease has done little damage.

the wood strawberry, *Fragaria vesca*, show virus diseases more quickly and plainly than any other species. By grafting young runners of a cultivated strawberry plant to runners of this species, that plant could be tested for viruses. If the plant were diseased the virus would be transferred through the runner-graft to the *F. vesca* plant, which would show symptoms plainly and quickly. This test has been generally adopted in research work.

For the last five years the USDA has conducted an extensive search for virus-free plants. Nurserymen, nursery inspectors, horticulturists, and plant pathologists have sent to the USDA at Beltsville, Md., vigorous, healthy-looking plants for graft-testing to *F. vesca*. Through such co-operation, virus-free plants have been obtained of most of the important varieties.

In order to be certain that all plants



A killer virus. Virus from some varieties is so severe when put in *Fragaria vesca* that it will kill the plant, as is happening here. Note bud is already dead.

are virus-free, an entire stock of a variety must be propagated from the single plant proved to be virus-free when grafted to *Fragaria vesca*. For this reason it takes some time to develop stocks sufficient for the nursery trade—usually about three years.

After virus-free plants have been obtained, they must be kept virus-

Table 2. Important Varieties of Strawberries in the United States

Variety	% of acreage	Virus-free plants found
Blakemore	32	Yes
Marshall	16	"
Klonmore	13	"
Howard 17 (Premier)	10	"
Klondike	4	"
Missionary	3	"
Sparkle	3	"
Catskill	3	"
Robinson	3	"
Aroma	3	"
Shasta	3	"
Fairfax	1	"
Beaver	1	"
Massey	1	"
Lupton	1	No
Temple	1	No
Others	2	(In some)

\* Supposedly clean stocks have been found by the California Department of Agriculture.

Below—A second type of virus common in strawberries in eastern United States.

free. At the Plant Industry Station at Beltsville, Md., and at the Oregon State Agricultural Experiment Station at Corvallis, this has been done by dusting the plants regularly with parathion to control aphids. Spraying with parathion was not found as effective as dusting.

(Continued on page 40)



# ROOT ROT *of* PEACHES

New light is thrown on  
a century old malady

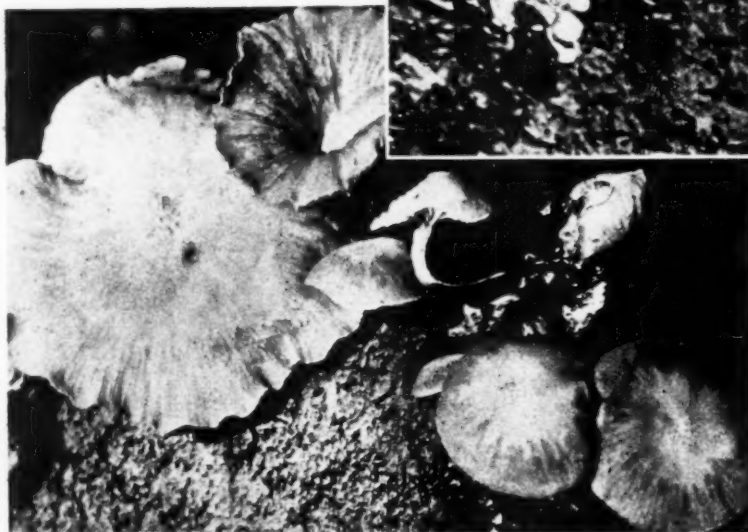
By E. F. SAVAGE  
*Georgia Agricultural Experiment Station*

**I**T IS generally recognized that peach trees planted on old orchard sites do not live as long as did the trees in the original peach orchard. This was reported as early as 1768 from England by Thomas Wildman in his book, *Treatise on the Culture of Peach Trees*.

Workers in Arkansas, California, Georgia, Idaho, Missouri, New Jersey, New York, Oklahoma, and Pennsylvania have all reported trouble with second generation peach orchards at one time or another, and for many years active work has been going on in some of these states to try to find the cause for the rapid failure of these second orchards.

In general, there have been two schools of thought regarding the cause. Workers in California have believed that these second orchard failures were due mainly to toxins in the soil which resulted from the decomposition of the old peach root bark and that the development of these toxic materials must be dependent upon the presence of certain microorganisms in the soil. Workers in New Jersey have thought it was a nutritional problem.

In Georgia about 1938 the late Joe Langdon, manager of Fruit Haven Farms near Woodbury, asked for help in finding out why he was having so much trouble getting his peach replants to live. Similar complaints



Top photograph shows severe damage to peach tree roots caused by *Clitocybe* root rot fungus; center photograph, cluster of young mushrooms or sporophore of *Clitocybe tabescans* on peach tree trunk; and above photograph, mature sporophore on trunk (note white spores beneath mushrooms).

were made in the Fort Valley area. Experimentally, the Georgia Agricultural Experiment Station approached this problem from two angles: 1) nutrition and 2) toxic residues. To date the trees receiving treatment with such supposedly toxic soil additions as peach root bark, arsenate of lead, and large amounts of sulfur are growing vigor-

ously and are highly productive.

The site selected for the nutrition experiment had been in peaches continuously since 1929. By the end of 1948 it became apparent that the trees replanted on this site were dying. During the spring of 1950 large numbers of these trees were below normal in appearance. There seemed to be

(Continued on page 42)

# HOOSIER BLUEBERRY KING

**A mechanical hoe enables Grower Pertics to maintain his expanding acreage at a profit**

By ELDON S. BANTA

**E**LIAS PERTICS, together with his wife and two sons, Amel and Earnest, has developed one of the finest blueberry plantings to be found anywhere. Located near Lapaz, Ind., it is the largest blueberry business in the state, consisting of approximately 50 acres. About 30 acres are planted to the Jersey variety, 15 to the Rubel, and five to the Stanley. The Pertics also have test plantings of new and improved varieties.

The pride and joy of the Pertics is their automatic hoe. One day Elias told his sons that if they were to remain in the blueberry business an easy, quick method of weeding their expanding plantings must be found.

Amel is also a design engineer and

hoe as much in one day as 100 men with hand hoes. Costing around \$1,000 to build, the machine has paid for itself in one year's operation.

The Pertics' mechanical hoe may have other uses, too. It could be used in vineyards, in young orchards for hoeing around trees, in some nursery plantings, and possibly in plantings of other bush-type berries.



**Blueberry plant before using hoe.**

Earnest a good mechanic, so when father Pertics presented them with the problem of inventing a mechanical hoe, they got busy immediately and developed a hydraulically operated device. The hoe fits onto their crawler tractor and does the job of hoeing unbelievably well. They have applied for patents on the device.

One man with the hoe can cover an acre an hour and at the same time pull a disc behind the tractor, cleaning weeds from between the rows.

Mr. Pertics feels that one of his sons using the new device can now



**Blueberry plant after using hoe.**

*Photographs by the Author*

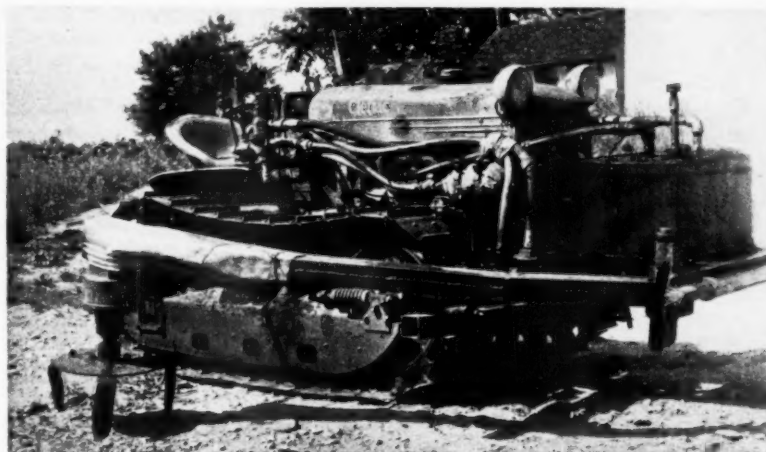


**Mr. and Mrs. Pertics are proud of their 50 acres of blueberries and are even more proud of their two sons who built, so far as is known, the first automatic hoe for cultivating blueberries.**

Yields are high in the Pertics' blueberry fields. One four-year-old planting last year produced 20 pounds of fruit per plant. This compares with the average of 12 to 15 pounds per plant in many blueberry fields. High yields are due to the ideal soil in which the plants are set, to proper cultivation and weed control, and to fertilization with 800 pounds per acre each spring of 3-9-18 fertilizer.

Harvest is no problem for the Pertics. Their farm is only a 30-minute drive from South Bend and several other large towns in northern Indiana. An ad in the daily newspapers tells customers when the blueberries are ripe. Last season over 1,000 people came to pick their own berries.

THE END



**The rotary hoe, powered by tractor power take-off, is attached to a hydraulically operated arm which moves to right and left as hand lever alongside tractor seat is pushed forward and backward. Quick action of the arm means faster hoeing.**

# THE FRUIT AREAS OF AMERICA

## WESTERN NEW YORK

By D. M. DALRYMPLE

ONE of the oldest, largest, and most important fruit areas in the country, western New York, has a very colorful history. It also has a great diversity in soil, climate, and kinds of fruits grown, and a wide variety of marketing systems which range from individual effort to large-scale co-operatives.

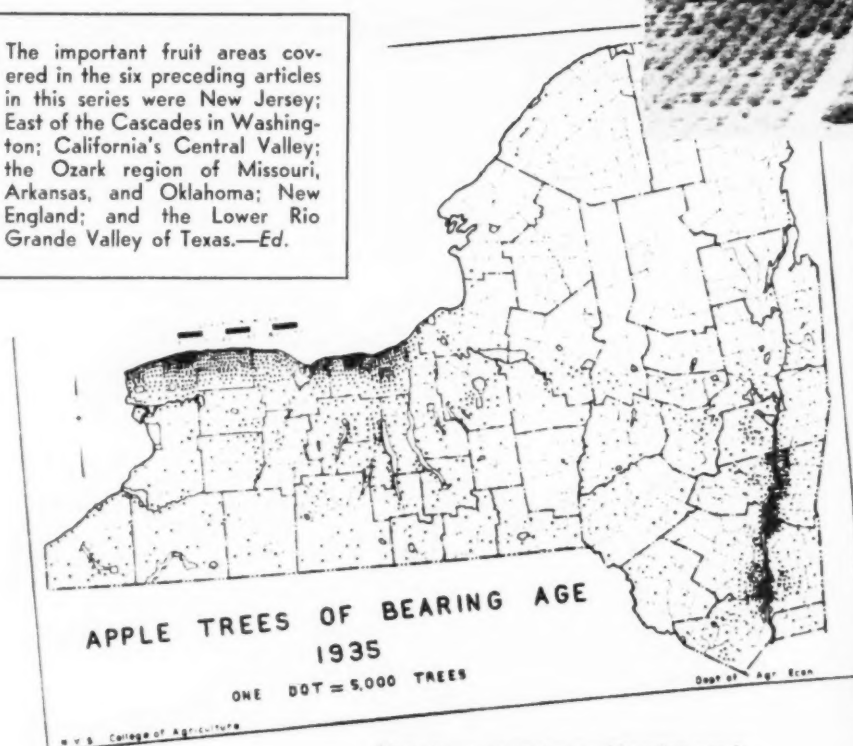
Roughly, the western New York fruit area extends from Syracuse on the east to the northwestern section of Pennsylvania—for the most part a strip 20 miles wide from Lake Erie and Lake Ontario and along the shores of the famous Finger Lakes. A few small areas south of Syracuse and in Wyoming County also grow fruit. Fruit production in inland sections, farther from water protection, has been diminishing rapidly since 1875.

The first Old World tree fruits—apples, peaches, and pears—were planted by French missionaries and settlers in the late 1600's and early 1700's at the mouth and along the shores of the Niagara River. The Iroquois Indians planted seedling apples, peaches, and pears near their settlements in western New York east to the Finger Lakes.

When American troops under General Sullivan marched through central New York in 1779, many types of fruit were discovered growing in Seneca County and in the Genesee country. Peaches, seedling apples, wild American plums, berries, and grapes are noted in historical reports. While England was governing Fort Niagara before the American Revolution settlers continued planting European fruit stocks in the vicinity of the Niagara River portage.

At the end of the revolution home orchards were rapidly developed by the colonial settlers. Improved strains were introduced from New England and eastern New York nurseries. The peaches grown were practically all used for peach brandy. This, with the hard cider made from apples, together with a little wine, helped to

The important fruit areas covered in the six preceding articles in this series were New Jersey; East of the Cascades in Washington; California's Central Valley; the Ozark region of Missouri, Arkansas, and Oklahoma; New England; and the Lower Rio Grande Valley of Texas.—Ed.



Map shows apple trees of bearing age in 1935. Western New York includes Finger Lakes and a 20-mile wide strip from Syracuse to Pennsylvania along Lake Ontario.

take the drabness out of frontier life.

According to the census, over \$18 million worth of fruit was marketed in 1949-1950 from the 17 counties which make up the western New York fruit area. Apples totaled \$8 million; peaches \$1.5 million; pears \$350,000; cherries \$3 million; grapes \$3 million; berries, principally strawberries and raspberries, \$1.5 million. Berries are grown primarily in Erie, Chautauqua, Ontario, and Yates counties. The value of other minor fruits, including quinces, prunes, apricots, crabapples, and plums, which are used mostly by processors, totaled \$500,000 more.

New York is one of the most outstanding fruit processing areas in the world. William Sherman, secretary of the New York State Canners and

Freezers Association, reports that 4,658,495 cases of canned fruit products were processed in 1951. This included 1.5 million cases of sliced apples; over 2 million cases of applesauce; 500,000 cases of cherries; 300,000 cases of peaches, pears, plums, black raspberries, strawberries, and sweet cherries. Sixty million pounds of frozen fruits were processed, including 42 million pounds of sour cherries; 9 million pounds of apples; and 8 million pounds of raspberries, strawberries, peaches, and prunes. There were nearly 11 million pounds of sweet cherries brined in New York, most of them in western New York.

Baby food manufacturers have become an increasing outlet for a large quantity of fruit. Baby food proces-



The orchard pictured above was planted in the hey-day of western New York fruit business. It is now between 30 and 50 years old and includes peaches, pears, and apples.

sors and juice industries used 1.5 million bushels of apples in 1951. Jelly, jam, and other preserve processors also used a considerable quantity of fruit—approximately 1,500 tons of peaches and 20,000 bushels of pears in 1952.

Probably not over three per cent of the grapes produced in the area

developed in Niagara County about 1868.

From 1850 to 1880 there was a surge in the development of vineyards all over western New York and production finally settled in the Erie-Ontario lake region, in Chautauqua, Niagara, Steuben, Seneca, Ontario, Schuyler, and Yates counties.

Around 1885, California began shipping wine to the East Coast and as a result New York growers who had been receiving 15 to 30 cents a pound were forced to take a loss on their crops. This depression continued until the development of unfermented canned and frozen Concord grape juice. The acceptance of the new, cheaper, sweet Concord wine has been remarkable.

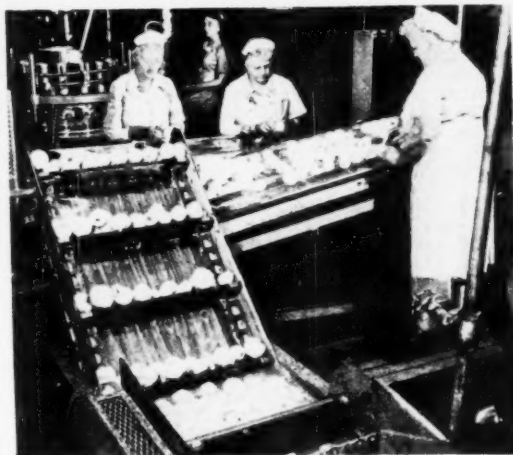
New York never lost its leadership in the production of champagne or sparkling wines in the Finger Lakes section where this high quality product is still made, and in the last 10 years grapes have paid better than any other fruit grown in New York.

Old vineyards have been replanted and co-operative packing plants have taken over the processing and sale of Concord juice. The Finger Lakes wines and some new champagnes are still produced by independent processors.

Processing of apples is done mostly by independent canners. The Western New York Apple Association estimates that three-fourths of the apples produced in western New York are processed. One of the big problems with which apple processors and growers in western New York have to contend is the instability of the price structure, due in part to the varying production of the two best processing varieties, Baldwin and Greening. These two varieties, together with McIntosh, make up three-

(Continued on page 46)

View in western New York plant of Lyndonville Canning Co., pioneers in applesauce production. President William A. Smith invented method for continuous cooking.



Above—Finger Lakes vineyard. Photo by J. H. Staby.

Below—Large grape processor is Welch Grape Juice Co. Brocton plant is shown below. J. H. Staby photo.

are sold fresh, whereas formerly a large percentage of the grapes were sold in the fresh form. Most of the grapes are processed by four or five co-operatives. The native-type grape found growing in New York was one of the interesting developments in the improvement of seedling and wild forms.

The Concord grape, which is now 100 years old, was developed by Ephraim Bull in Concord, Mass., from a seedling wild grape and was reported on by the Massachusetts Horticultural Society on September 3, 1853. The white Niagara was





- Maryland Growers Learn All About Bees!
- Experimental Dwarf Tree Plantings Being Made in New York

**MARYLAND**—Something new in subjects was included in a recent four-county fruit meeting when a specialist in bee culture described the life history of the honeybee; how the bees locate pollen sources; how they work; what they require; why they are scarce; why pollination may not be as desired; why bumblebees are decreasing; how to select colonies for the orchard pollination job, etc. Such a discussion proved to be a spellbinder, and it gave growers a better idea of the pollination problem.

D. Eldred Rinehart, a prominent apple and peach grower of Smithsburg, has been appointed chairman of the state racing commission. He has done a fine job as a fruit grower, then added dairying to his efficiency list, and just recently resigned as president of the Hagerstown Fair Association.—*A. F. Vierheller, Sec'y, College Park.*

**NEW YORK**—Apples are moving out well from storage, mostly in three-pound bags.

Bud looks fairly heavy on McIntosh and Greening, light on other varieties. Weather is seasonal, very little snow, ground dry. Pruning is well along in most orchards where help has been available. Industry is pulling in many workers—both men and women—at high wages. Bulldozers have been busy in western New York all winter pushing out old trees, girdled trees, pear trees, and peach and prune trees.

Considerable planting of apple and peach trees by commercial growers has been going in during the fall of '52 and will go in during the spring of '53. From 20 to 30 per cent may be dwarf stocks for experimental plantings or pollination. Varieties are mostly Rome, Red and Golden Delicious, Greening, some McIntosh. Peaches are practically all the earlier strains, few Elberta.—*D. M. Dalrymple, Sec'y, Lockport.*

**OHIO**—"Efficient Utilization of Labor to Produce More and Better Fruit on Fewer Acres" was the theme of the 106th meeting of the Ohio State Horticultural Society recently held in Columbus.

Jerome Hull, Canfield fruit grower, opened the meeting with his president's address. He commended the society on its assistance to growers and spoke with optimism about the coming season, especially if growers place emphasis on growing quality crops and marketing them orderly.

Dr. Freeman S. Howlett, head, Ohio department of horticulture, gave society members many facts to think over, including the statement that a survey last year showed that orchards planted with less than 40 trees per acre lost money more frequently than those with 40 or more per acre.

Entomologists of the Ohio Agricultural Experiment Station pointed out that last season was one of the worst aphid years for some time, but these authorities believe 1953 will not be so bad because insects tend to appear in cycles.

A great part of Ohio will face outbreaks of the 17-year locust this summer. This insect is rather difficult to control and is especially destructive to young trees. In the western half of the state it may be advisable to defer extensive new tree plantings for a year. TEPP is one of the best control materials and when the locusts are out in numbers spraying once or twice a week may be necessary.

As guides to the selection of peach varieties and areas for planting, Prof. Stanley Johnston, South Haven (Mich.) Experiment Station, emphasized that the first major outlet for peaches is the fresh market; second, commercial processors; and third, home freezers. In planting peach trees on old peach orchard sites, Johnston suggested dipping the roots of the young trees in a solution of BHC just before planting to control the black peach aphid which is so troublesome in some peach areas.

Two of the best varieties of strawberries from the standpoint of yield, quality of fruit, and resistance to red stele disease

are Fairland and Red Crop, stated Dr. Robert G. Hill of Ohio Experiment Station. Dr. George L. Slate of New York (Geneva) Experiment Station emphasized research work in New York which revealed that applications of nitrogen fertilizer to strawberries in the fruiting year reduces yields. He recommends application of nitrogen fertilizer in August, if it is needed at all. At that time it helps to increase the formation of fruit buds for next year's crop. He suggested Crag Herbicide 231 as one of the best weed sprays for strawberries.

B. Franklin Dietsch, Edgerton, is president of the society for 1953; Albert Livezey, Barnesville, first vice-president; and J. B. Lane, Xenia, second vice-president. I. P. Lewis, New Waterford, and C. W. Ellenwood, Wooster, continue as treasurer and secretary, respectively.—*Eldon S. Banta.*

**NEW JERSEY**—Two promising peach seedlings and one apple seedling probably will be named next fall and released for  
(Continued on page 22)

## FRUIT PEST HANDBOOK

(TWENTY-SECOND OF A SERIES)

### APPLE RUSTS

**THREE** related species of fungi, the cedar-apple rust (*Gymnosporangium juniper-virginianae*), the hawthorn rust (*G. globosum*), and the quince rust (*G. clavipes*), spend a portion of their life cycle on cedar trees and the balance on apple and related fruit trees.

The cedar-apple and the hawthorn rust form galls on the leaves of cedar, while the quince rust forms cankers on the branches and trunks of cedar trees.

During periods of rainy weather in the early spring, the galls of the cedar-apple rust produce gelatinous masses of two-celled spores that germinate and release from each cell four tiny globose spores. These spores, carried by air currents to apple trees, infect the leaves and fruit, forming bright orange-colored spots covered with a sticky ooze.

In a short time another sport structure develops in cup-like spots that releases spores capable of infecting only cedar leaves. Galls that develop on cedar leaves do not produce spores until the second spring after the spores were carried by air currents from the apple leaves and fruit.

Spores from the hawthorn rust galls  
(Continued on page 49)

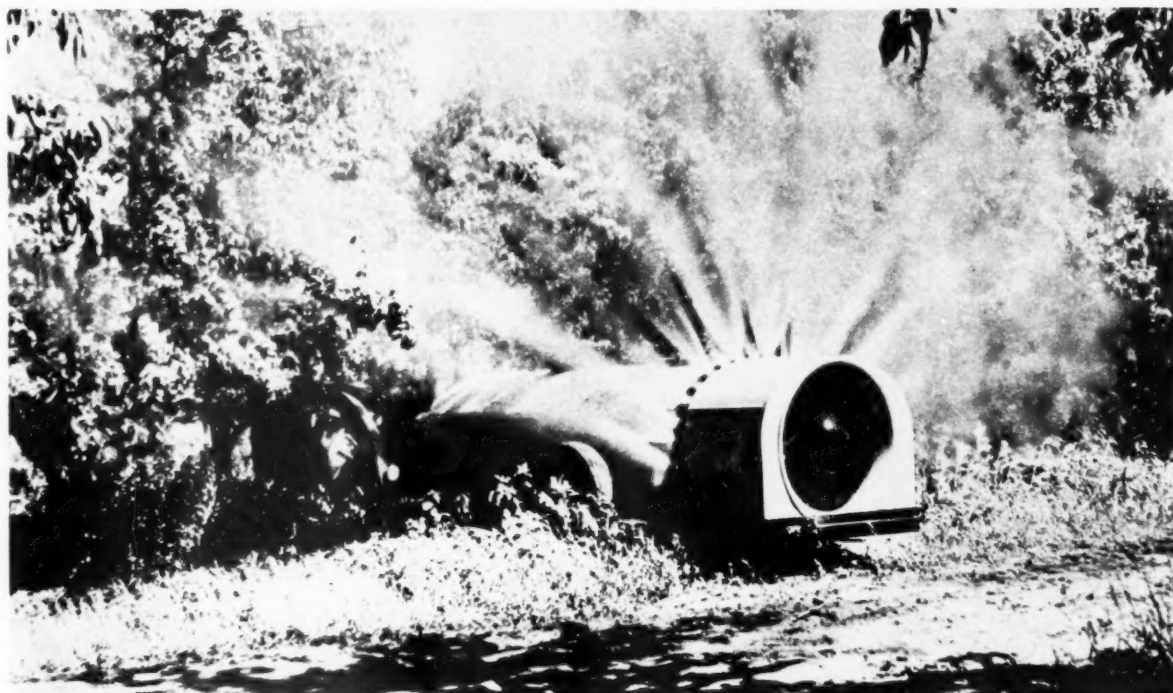
Photographs show rust-infected apple, apple leaves and galls on "cedar apples" on cedar. Courtesy USDA.





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The photograph above and the one below were made on the same day in the same area. The above orchard received an application of 5-10-10 fertilizer. The orchard below received the same fertilizer plus trace minerals. The same amount of fertilizer was used on each block. These photographs were taken after harvest.



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## CALENDAR OF COMING MEETINGS AND EXHIBITS

**Apr. 2-3**—Vermont State Horticultural Society annual meeting, fruit conference, and Trade Show, Middlebury.—C. Lyman Calahan, Sec'y, Burlington.

**Apr. 8-12**—Annual cherry blossom festival, Washington, D.C.

**Apr. 30-May 1**—Shenandoah Apple Blossom Festival, Winchester, Va.—Jean James Demorest, Dept. of Publicity, Winchester, Va.

**May 3-9**—Southwestern Michigan blossom festival week, St. Joseph.

**May 7-9**—Washington state apple blossom festival, Wenatchee.—Fred G. Campbell, Dir.-Gen., Wenatchee.

**June**—Illinois State Horticultural Society orchard field day tentatively planned for latter part, at Nugent-Schapenski Orchards, Grafton.—Harold J. Hartley, Sec'y, Carbondale.

**June 4-6**—Annual strawberry festival, Lebanon, Ore.

**June 17-19**—National Apple Institute annual meeting, Roanoke, Va.—Truman Nold, Sec'y, 726 Jackson Place, Washington 6, D.C.

**June 22-24**—South Dakota State Horticultural Society annual meeting, Britton.—W. A. Simmons, Sec'y, Sioux Falls.

**July 7-8**—Texas Pecan Growers Association 32nd annual meeting, Memorial Student Center, College Station.—John E. Hutchison, Sec'y, College Station.

**Aug. 9-13**—International Apple Association annual convention, Sherman Hotel, Chicago, Ill.—Norbert W. Eschmeyer, Sec'y, 1302 18th St., N.W., Washington 6, D.C.

**Aug. 31-Sept. 2**—Northern Nut Growers Association annual meeting and tour, Rochester, N.Y.—George Salzer, Vice-Pres., 169 Garford Road, Rochester, N.Y.

**Sept.**—Illinois State fruit festival, Murphysboro.

**Oct. 22-31**—National Apple Week.—National Apple Week Assn., 1802 18th St., N.W., Washington 6, D.C.

**Nov. 3-5**—Florida State Horticultural Society 66th annual meeting, Daytona Beach.—E. L. Spencer, Sec'y, Bradenton.

## STATE NEWS

(Continued from page 20)

general propagation. The peaches are N. J. 133, a yellow-fleshed semi-freestone ripening 10 days before Golden Jubilee and N. J. 117, a bright, attractive yellow-fleshed freestone ripening just before Elberta.

The apple is N. J. #1, a large, red apple similar in appearance to Rome but of better quality. It also hangs to the tree longer than Rome and will keep in storage just as long.

Fruit crop prospects (Mar. 9) indicate larger crops of apples and peaches than were produced in 1952.—Arthur J. Farley, Sec'y, New Brunswick.

**TEXAS**—The crop heating activities of L. A. ("Red") Salmon of McAllen in the Rio Grande Valley where frosts during recent years have killed millions of citrus trees as well as truck crops, were dramatically pictured in the March 16th issue of *Life*.

Located in an area where natural gas is in plentiful supply, Salmon devised a whirling, flaming crop warmer. It consists of a T-shaped rig through which the gas is piped to jets on the ends of the 65-foot long horizontal pipe. The lighted jets whirl around the main post under their own power, something like an ordinary lawn sprinkler. Per acre cost of operation, \$1.50 an hour. Enthusiastic neighbor-growers are buying the heaters from Salmon at \$250 a T.

**MASSACHUSETTS**—Harry Seagraves, 86, manager of Long Hill Orchard, West Newburg, died recently following an automobile accident in Texas. Affectionately known as "Dean" by fellow fruit growers, he will long be remembered for his ready wit and keen knowledge of and optimism for the fruit industry.—A. P. French, Sec'y, Amherst.

AMERICAN FRUIT GROWER

**KANSAS**—Growers are getting excited over the excellent prospects for a good peach crop again in 1953—the sixth crop in succession for the state.

Apple orchards are coming through in very good condition except in the south where buds are light and somewhat weak from the excessive drought in '52. Generally, orchardists are taking good care of their plantings, there is a tendency toward heavier pruning, a good deal of fertilizer will be applied, and much interest is being shown in the possibilities of chemical thinning since this promises to be a "snowball" bloom year.—*H. L. Drake, Sec'y, Bethel.*

**MICHIGAN**—Prospects for a good 1953 fruit crop look very good (Mar. 16). Growers have been pruning large apple trees more heavily this season to better adapt them for concentrate spraying and to reduce spraying and harvesting costs.

More and more dependence is being placed by growers on the eradivative type of fungicides, such as liquid lime sulfur, mercurial compounds, and phylon for control of apple scab. The use of these compounds has made spraying necessary only when weather conditions are conducive to apple scab infection. During the 1952 growing season some growers made no spray applications on apples until calyx time owing to the absence of rainy weather from green-tip until after bloom.

Blossom and fruit thinning of apples using naphthaleneacetic acid compounds will be used throughout the state this coming season with the prospects of a large apple crop. Growers are interested also in trying "Amid-Thin" on such varieties as Yellow Transparent and Oldenburg (Duchess) where they have experienced injury from naphthaleneacetic acid compounds in past years.—*Arthur E. Mitchell, East Lansing.*

**PENNSYLVANIA**—A state-wide census of commercial apple, peach, and sour cherry



No, you're wrong! This isn't Yogi Berra of the Yankees riding a tractor—it's Gaetano Ferraiolo of Wallingford, Conn., who because he almost lost an eye a few years ago while removing brush in his orchard now wears a baseball mask when operating his tractor-mounted brush pusher.—*Arthur C. Bobb.*

trees—the first of its kind in 33 years—will be made this spring by the Agricultural Extension Service, the Bureau of Markets, and the Federal-State Crop Reporting Service. The survey has the support of the state horticultural association.

**NEW HAMPSHIRE**—A new association, organized February 18, at Durham, by folks interested in producing and selling plants, trees, and shrubs, is known as the New Hampshire Plant Growers Association. Officers are: President, Raymond Jelineau, Dover; secretary, Mrs. Katherine Dougherty, Exeter; treasurer, John Leahy, Dover; vice-presidents: J. L. Pearson, Quincy; William Homberg, Rochester; and Glendon Emerson, Hamstead.

(Continued on page 24)

APRIL, 1953

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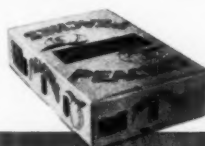


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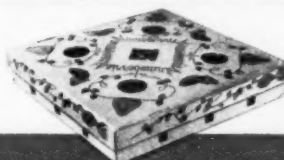


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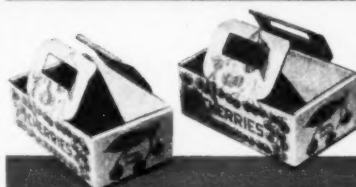
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Concentrating on the program of the National Peach Council during its recent convention in Spartanburg, S.C., are the 1953 officers of the S. C. Hort. Society. Left to right: Roy Ferree, Clemson, secretary; Dave White, Hartsville, president; and E. R. Taylor, Greer, vice-president.

## STATE NEWS

(Continued from page 23)

One of the principal objectives of the association is to provide a source, to nurseries and growers, of certified true-to-name seeds, plants, shrubs, and trees adapted to this area, including the new introductions of the department of horticulture, University of New Hampshire.—E. J. Rasmussen, Sec'y, Hort. Soc., Durham.

**VERMONT**—Donald L. Smith of Windy Wood Orchards, Barre, won the Vermont State Horticultural Society apple sweepstakes award for having produced and exhibited the finest apples entered in the Farm Products Show at Barre. The Ray Allen family also distinguished itself at the show. First ribbon went to Mrs. Allen for a Cortland apple pie which she entered in the state-wide competition, while Mr. Allen, a past president of the hort. society, won numerous sweepstake prizes. The Allen Home Farms are located at South Hero.—C. Lyman Calahan, Sec'y, Burlington.

**WASHINGTON**—After serving eight years as secretary-treasurer of the Western Washington Horticultural Association, Dr. C. D. Schwartz, who is associate horticulturist at the Western Washington Experiment Station, Puyallup, would not accept re-election. Dr. Schwartz was, however, elected to the board of directors during the recent annual meeting of the association.

Replacing Dr. Schwartz is Morrill Delano, Puyallup. Other 1953 officers include Miles Hatch, Alderton, president; W. H. Bradford, Tacoma, first vice-president; and Stanley Walters, Puyallup, second vice-president.

**WISCONSIN**—A satisfactory 1952 season stimulated interest in 10 meetings during February and March of county fruit grower associations affiliated with Wisconsin State Horticultural Society. Attendance ranged up to 100 growers and their wives. Programs covered disease and insect control, old and new varieties, pruning for better size and color.

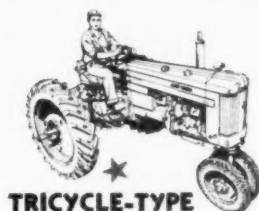
Marshall Hall, Casco, vice-president of the state society, is giving new life to his apple trees via the "end pruning" method developed by Dr. R. H. Roberts of the University of Wisconsin. End pruning consists of cutting all weakly growing branches and spurs "in half." The result is vigorous side branches, large leaves, and large apples, and in the case of biennial bearing varieties sufficient blossom buds for good off-year crops.

Alfred J. Meyer, secretary of the Milwaukee County Fruit Growers Association for more than 20 years, and his wife have been awarded honorary recognition by the Uni-

(Continued on page 27)

AMERICAN FRUIT GROWER

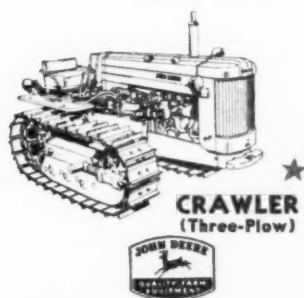
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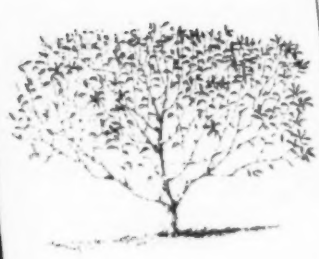
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## STATE NEWS

(Continued from page 24)

versity of Wisconsin for outstanding achievements in the field of agriculture. Only one husband and wife receive this honor annually.—*H. J. Rahmlow, Sec'y, Madison.*

**CALIFORNIA**—Strong winds and freezing weather in February and early March caused some damage to new growth of foliage and buds of citrus trees. The 1952-53 crop of lemons was also damaged.

USDA crop estimates of Navel and miscellaneous oranges on March 1 totaled 16 million boxes compared with 12.6 million last season. The Valencia crop is forecast at 28 million compared with 25.8 boxes last season. The lemon crop is expected to total the same as the 1951-52 crop or 12.8 million boxes.

Robert T. Amis, 85, pioneer citrus grower of La Verne, died recently.



This modern cold storage is on the fruit farm of Ernest F. Markert, Amherst, Mass. The plant literally rose from the ashes of Ernie's previous storage which occupied the same site but was destroyed by fire along with 30,000 boxes of apples.

**FLORIDA**—Citrus production for the 1952-53 season was estimated by the USDA on March 1 at approximately 111 million boxes. Of this total early and mid-season oranges account for 42.5 million boxes, which is 3 per cent less than last season, and Valencia oranges 32.5 million boxes, which is 7 per cent below last season. Grapefruit production estimate of 31 million boxes is 5 million less than was produced last year.

Florida's faith in the future of her citrus industry is indicated by the fact that more than a million citrus trees have been planted during each of the past three seasons, 1949-50, 1950-51, and 1951-52. Citrus trees in the state now total 34,398,000. Oranges lead in the citrus plantings.

**VIRGINIA**—Growers report good bud on apples and peaches. Recent snows and cool weather are appreciated. This will be off year for York in Virginia.—*John F. Watson, Sec'y, Staunton.*

**TENNESSEE**—Early peaches are blooming (Mar. 16)—and our fingers are crossed! Bud prospects are still favorable.—*A. N. Pratt, Sec'y, Nashville.*

**MINNESOTA**—The winter appears to have been unusually favorable for all fruits. Plenty of snow, no extremely low temperatures, no prolonged warm periods.—*J. D. Winter, Sec'y, Mound.*

**IDAHO**—Apricots are in bloom (Mar. 14) in the warmer areas. Most growers have heaters ready to light.

Quite a few fruit trees are being set out. We are hoping more wives will insist that their husbands ask nurserymen to load up a few ornamental trees and shrubs for landscape planting when they send the truck to the nursery for the fruit trees.—*Anton S. Horn, Sec'y, Boise.*

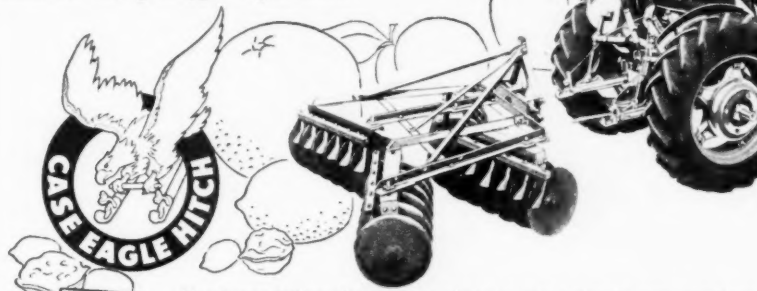
APRIL, 1953

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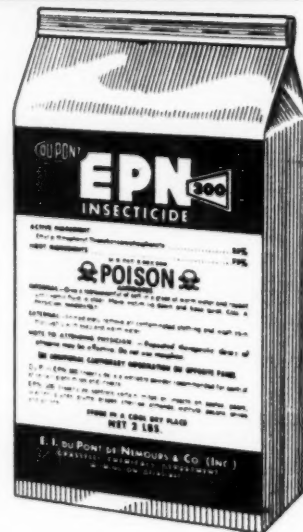
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# Cultural Problems in NORTHWEST PEACH ORCHARDS

California Packing Company's experimental  
fruit ranch casts new light on old problems

By WILLIAM H. WRIGHT

**U**NLIKE politicians who don't admit mistakes, the California Packing Company operates 80 acres of experimental peach orchard on the new Roza Irrigation Project in the Yakima Valley of Washington for the purpose of finding mistakes.

From this orchard Calpack, producer of the widely known "Del Monte" brand of canned goods, hopes to gain a wealth of information about the culture of the Queen of Fruits for the benefit of the entire Pacific Northwest peach industry. Company officials encourage peach growers to visit the ranch near Zillah to see what Calpack has accomplished and is trying to do on hundreds of small plots and sections of orchard.

That many of the practices have proved successful was evident last September when plot yields as high as 20 tons of Elbertas to the acre were recorded. The three- to six-year old trees produced their first real crop last season. Previous production indications were wiped out by spring frosts and some winter damage in 1950.

To produce a properly sized processing peach, a chain of good cultural practices must be followed, starting with correct spacing of trees when they are planted. Calpack found that on deep soil 22-foot intervals seemed to give the best area for spread of branches and sunlight, as well as for efficiency in moving out harvested fruit.

Results of research conducted in California are applied to the Yakima experimental ranch. The practice of not growing a permanent cover crop, a system followed in California, is looked upon almost in horror by many Yakima growers.

The Del Monte people say that a permanent cover crop stunts fruit trees when they are first planted and robs them of needed irrigation water during the growing season. A cover crop of winter vetch only is used, and it is disked into the soil in the spring. Five-year-old trees are fertilized with six pounds of ammonium sulfate.

In all newly irrigated land in central Washington there is a lack of humus, and "pro-humus" observers of the experimental orchard wonder

if this vetch cover crop will provide enough humus for big yields. The trees were originally set in nearly virgin soil.

Neil Pinkerman, who is in charge of Calpak's orchard operations, closely watches the cultural practices of neighbors like H. L. Zeigler who use a permanent cover crop. Zeigler admits that there might have been some retarding of tree growth for two years after his orchard was set out, but he states further that the trees received sufficient water to result in a healthy orchard. In the future he will not disk his cover crops as he does not want to break up the rootlet system near the surface of the soil. He uses the

sprinkler method of irrigation and has had no soil erosion.

The Zeigler tract originally was in potatoes and alfalfa, and the beneficial effects of the nitrogenous alfalfa are readily apparent in the better growth of trees on this land.

In the Del Monte orchards where either the furrow (rill) or sprinkler method could be used, the furrow system was chosen. Deeper penetration of the water into the soil determined this course. The gradient of the furrows prevents any great soil washing.

Eighteen acres of orchard are in fertilization experiments with 12 different treatments under trial in replicated plots. Most important objectives



Winter view of pruned tree shows methods used in experimental orchard. Arrow points to wire girdling upper part of tree to replace props. The fruit-laden branches fall against the wire.



Neil Pinkerman, in charge of Calpack's orchard operations, is shown standing in Ladino clover-alta fescue experimental cover crop. Permanent covers have reduced growth and yield of young peach trees.

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are to determine proper fertilization ratios in order that major and minor elements lacking in the volcanic soil can be provided.

Space thinning experiments have proved to Calpack that the hand method is best. Four-inch spacing resulted in 1,440 peaches to the tree, or 17 tons to the acre. Where five-inch spacing was used, the production was 1,350 peaches per tree of the same size as in the four-inch experiment.

Peaches thinned to four-inch spacing were uniform in size and just gently touched one another. Neither undersized nor giant peaches are wanted for processing so Calpack pays particular attention to its thinning experiments.

### **Proper Maturity**

Also commanding top attention is maturity. The Del Monte cannery prefers peaches which have been harvested four to six days before cannery ripe. The company estimates a yield gain of about four pounds to the box when the peaches are picked at proper canning maturity.

Ripe peaches must be treated gently, and picking crew foremen are constantly on duty to see that workers handle the fruit carefully. In the pickers' favor is the fact that boxes must not be overfilled, which helps to minimize bruising.

Props are an unknown quantity in the Calpack orchards. Instead, a wire trellis encircles each tree and the loaded limbs rest on the wire. Thus limb breakage is kept to a minimum, no "lumber yard" of supports needs to be taken care of during the growing season, the expense of removing and setting props is eliminated, and there is no interference with the movement of fruit out of the orchard.

### **Pruning**

In pruning, Calpack keeps trees to such a height that picking in the tops of the trees may be done from a 10-foot ladder. Production is encouraged in the lower branches of the trees, and contrary to the usual practice in the valley, spurs or "hangers" are not cut out, nor are branches snubbed back.

The newly planted trees are pruned to three or four main laterals about 18 inches above ground. As the trees grow, leaders are forked at three and one-half to four feet and again at five and one-half feet. Normally at eight feet there are 15 to 24 good limbs on a tree.

Officials in Yakima say this experimental orchard will eventually give them thorough knowledge of profitable methods of growing peaches in that area. Calpack already has backed up its assurance that it will expand its cannery facilities to meet the growing peach production of the Yakima Valley.

THE END

WESTERN EDITION AMERICAN FRUIT GROWER

# Pacific

## NEWS AND VIEWS

How to control fire blight is a tough problem. In Colorado, spray tests over a four-year period on pears and apples showed that applications of Dithane Z-78 in the 10 per cent bloom and another application at full bloom gave the best results by reducing blossom and twig infection approximately 75 per cent. On the basis of these tests, Dithane sprays together with regular pruning out of hold-over cankers has become the standard recommendation for fire blight control in Colorado. Dithane was applied at the rate of two gallons per 100 to which Triton B-1956 was added at one-half ounce per 100 gallons. In areas with longer blooming seasons an additional application is recommended at about the 90 per cent petalfall stage.

**No fruit area ever made its reputation on old trees, says Jack Batjer, USDA pomologist at Wenatchee, Wash. He feels that the biggest problem facing the Northwest apple industry is overage trees.**

William Shinn, Willamette Cherry Growers, Salem, Ore., believes the brined cherry outlook is good because there will be no carryover such as existed in previous years. Chester Chase, sales manager for Paulus Bros. Packing Co., Salem, isn't quite so optimistic in reference to canned sweet cherries, primarily because of an expected substantial carryover when the 1953 crop comes on the market.

Figures on apple consumption during November, December, and January showed that certain western New York cities averaged 24 pounds per 100 customers, whereas Chicago showed 28 pounds and Los Angeles a surprisingly large average of 62.1 pounds. The high average for Los Angeles results from aggressive advertising and promotion by the Washington State Apple Commission which has been concentrating their efforts in the Los Angeles market for a number of years. If other markets were increased accordingly there wouldn't be enough apples to go around.

A new apple packing and shipping cooperative was born last season when the White Mountain Fruit Growers Association in the Hondo Valley of New Mexico started operations. Because apples in the valley color early, growers feel they can market their fruit two weeks earlier than growers in more northern areas. Harvesting started August 29 and the first shipment was sold and trucked to markets in Dallas the first week in September. Apples selling at \$4.50 per bushel cost \$1.90 to grade, pack, and sell. This included packing charges \$1.25, shed cost 20 cents, plus a 10 per cent brokerage fee. A 20-cents per box debt retirement deduction was made by the association. Highest individual net return was \$2.52 a box with the lowest 99 cents. Over 39,000 field boxes were graded with a 58 per cent packout and a 42 per cent cull. Grading was supervised by a federal inspector according to U.S. and New Mexico standards.

California Fruit Exchange made total

gross sales in 1952 of \$21,989,170—the highest in the history of the 52-year-old organization. Best previous year was in 1946 which had a total gross of \$21,921,106. Sad news is in rising costs from \$89 a car in 1946 to \$123 in 1952.

California Fresh Peach and Plum Advisory boards, under the direction of manager H. W. Van Gelder, spent \$17,500 last season for the inspection of 2,778,418 lugs of fruit mostly done by the county agricultural commissioners. The inspection enforced the minimum size, grade, maturity, and pack regulations under provisions of the marketing orders. In addition, a promotional program for fresh peaches and plums was started by mailing information to food editors who in turn sent stories to over four million readers. The work on quality control and promotion helped return to the fresh peach grower a production value of \$22 million compared to \$21,421,000 in 1951. The high-low per pound price reported in 1952 on the Los Angeles Wholesale Market was 25 cents per pound for fancy cup fruit and a low of three cents per pound for small naked packed fruit.

Alarmed by the declining consumption of fresh fruits and vegetables (from 500 pounds in 1946 to 436 in 1951) and the steady increase in processed (in 1944 69 per cent shipped fresh down to 57 per cent in 1951), the United Fresh Fruit & Vegetable Association has established a "United Fresh for Health Foundation." The program will be financed on a voluntary basis with supporters in the trade being asked to pay 25 cents a car. Already an abstract has been prepared listing everything in medical literature about the health giving qualities of fresh fruits and vegetables.

Chester L. Mulkey of McMinnville, Ore., director of Oregon Nut Growers, chose a unique method of variety and rootstock selection when planting 29 acres of walnuts. He planted two varieties top-worked on three types of rootstocks on 30x30-foot spacing. When it becomes necessary to thin out the trees, he will select the variety and rootstock doing the best job. He chose Franquettes on English roots and on California Black for one section. Franquettes on Manchurian rootstock were also selected together with Hartleys on English and on Manchurian rootstock. With water available for irrigation, Mulkey is interplanting the rows with Thornless Evergreen blackberries for supplemental income until the walnut trees begin to bear.

Farm machinery designer, A. D. Goodwin, Manteca, Calif., who has developed the Goodwin nut and fruit harvester, is never satisfied with current models. For 1953 he recently announced three improvements for his pickup harvester and they seem pretty logical. Changes include a new rake arm that will be pulled instead of pushed so it will conform more closely to ground contours, less space between tractor and pickup for better weight distribution, and larger leaf capacity in the blower.

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#### :02.0 Seconds

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#### :01.5 Seconds

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## GENERAL

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**A**FTER many years of effort by California fruit growers to protect their orchards from freezing damage, an economic method seems to be in sight. At least that is the conclusion one draws after visiting orchards and groves and listening to growers and University of California frost protection specialists.

Dr. F. A. Brooks, agricultural engineer, together with research workers Rhoades and Leonard, have been waging a battle with Jack Frost in a highly scientific manner at the Riverside Experiment Station. Elaborate and specially designed equipment records temperatures day and night in 47 trees and at different heights on eight masts in various locations. Wind machines and combinations of wind machines and heaters are on trial. The many combinations of variables that effect orchard and grove damage when low temperatures strike are being carefully studied.

Seventy-two of the 370 wind machine installations in Orange County on January, 1951, were electrically powered.

A summary of the results of the experiments at Riverside together with the results of a survey among 40 fruit growers in Orange County who are using wind machines shows that:

1) Effectiveness of the wind machines varied from 1° to 5° F. in the 40 orchards.

2) In periods of low temperatures, wind machines need to be supplemented by a few heaters per acre uniformly distributed throughout the orchard.

3) In normal winters, proper placing and powering of wind machines results in satisfactory protection in the California coastal zone, which is tempered by the Pacific Ocean.

4) No definite conclusion can be made from the experience of any one orchard. Each location must be studied for nocturnal air drift and appraised for probable degrees of frost to evaluate the protection needed.

5) Cost of operation of about 70 cents per acre hour may rise with age of machine, most installations in the survey being recent.

6) By reducing speed of revolutions, cost of operation and life of engines can be cut and lengthened, respectively, with only moderate reduction in area of protection in many instances.

7) Electric machines of 30 h.p. were cheaper than gasoline jobs using two engines running at 70 b.h.p. (brake horsepower) each, but per acre cost is in favor of gasoline engines

unless the electric standby charge is carried by an irrigation pump.

8) Automatic starting of machines at 32° for oranges is wasteful, as lower starting temperatures will do for light frosts.

9) Protection of too many acres per machine is expected by some growers; one large dual engine machine to 15 acres rather than for 20 acres does better. Two small machines in some orchards are more suitable than one big machine.

10) Wind machines create little heat but are effective by mixing warm air above the orchard with cold air in the trees. Orchards with machines are drier than those using heaters and this reduces potential damage.

Natural conditions in the orchard influence frost hazard. Obstructions to the drainage of cold air may cause cold spots. Solid ground absorbs sun's heat fastest and provides a warmer base at night; cultivated soils are next; and cover crops are coldest.

The fact that the grower survey covered two consecutive low temperature winters in Orange County (1951 and 1952) makes the report of special importance.—F. Hal Higgins.

## WIND MACHINES GAINING IN WEST



**IT'S THE MIGHTY—AIR-O-FAN**

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DEALER INQUIRIES INVITED

# SUCCESS IN WESTERN ORCHARDING

By GRANT BURTON

**"Dad thought I was foolish" is the remark that spurred Grant Burton, despite depression, to embark on his career of bank farm hand, then owner of extensive fruit and walnut acreages in the San Francisco Bay area of Contra Costa County, California. His choicest crop: two boys, three girls.—Ed.**



THINGS were really getting tough in the post-World War I era when I got out of Stanford University. Father, who was a state purchasing agent, thought I was foolish to be talking and planning to farm. My pioneer grandfather who came to this Central Valley from England in 1872 had been a farmer and father never forgot the hardships and low monetary returns for farm products during his boyhood days.

I wanted to get into cattle ranching but my contact with Phil Bancroft, son of the famous historian, for whom I worked several summers while going through high school and college, resulted in my accepting a job on the Bancroft fruit and nut ranch. This experience plus that obtained in several other farming ventures fitted me in 1932 for the job of foreman for some of the many properties taken over by the Bank of Italy (now the Bank of America). Thompson Seedless and Muscat grapes and freestone peaches were two of the fruit crops I handled on a ranch in Madera County.

In two years I was upped by the bank to assistant manager for Merced County with 250 farms to manage—dairy, tree fruits, vineyards, field crops, etc. In 1934 I was moved to Modesto as district manager.

My friend and ex-employer, Phil Bancroft, was responsible for the change which made me manager of the Probst Ranch on Thanksgiving Day, 1935. My salary, \$150 a month, was less than the bank had been paying me but my agreement with Mr. Probst

gave me a share of the profits if and when I could bring the ranch to that point. Not until 1942 did that ideal situation materialize.

The rundown Probst Ranch, consisting of 30 acres of pears and 60 acres of non-bearing walnuts, gave me a wonderful opportunity to experiment with various cultural methods. First of all I changed the pruning method. Weeds took over where clean cultivation had been the rule. The trees benefited from the increased irrigation which I practiced. Copper sprays and dusts gave absolute control of the one-time serious blight problem. Pears were bringing \$25 a ton at this time.

Various co-operative purchases of adjoining fruit ranches during the intervening years between 1939 and 1950 finally resulted in my owning outright the Brookside Ranch which today consists of 100 acres in walnuts, 38 acres in Bartlett pears, and 20 acres in pasture. I had at this point reached my life's ambition, that of owning a ranch, and what is more, I was especially proud of the fact that when I severed connections with Mr. Probst our nine-year deal had paid off 114 per cent a year on the investment, including his capital.

Much of my success I feel has been due to mechanizing farming operations wherever possible. My speed sprayer with air-blast permits two men to do the work formerly done by 12 men. Labor today is \$1 an hour. I plan to start harvesting walnuts mechanically. I have cut my walnut shaking costs in half by using two crawler tractors with cables.



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Andy and his father are generally in the orchard together during pruning time.

## Western Orchard Visits

# MANY ADVANTAGES IN FATHER-SON PARTNERSHIP

By JACK R. WHITNALL

**A**S Ralph R. Rosinbum of Yakima, Wash., can testify, it's nice to have a son as a partner to help operate your fruit ranch—but it's better yet if that partner has a touch of inventive genius that can produce efficient farm machinery at the touch, literally, of a welding torch.

The 100-acre ranch of R. R. Rosinbum and his son Andy is located in the rock-knobbed district of Naches Heights, west of Yakima. The orchard plantings consist of 37 acres of pears, 40 of apples, 3 of cherries, 10 of young apples, and 10 of young pears. In addition, some 30 acres of open land provides pasturage for Andy's string of 13 Arabian horses.

The Rosinbums have been partners since 1944, although Andy had worked on the ranch his whole life. At the present time, Andy owns 40 acres of the ranch, but the entire acreage is operated as a joint venture.

Equipment on the farms includes a jeep, a pickup truck, a one and one-half ton truck, three tractors, plus a half-breed tractor, a homemade

power sprayer, and a homemade power pruning platform. Buildings include two ranch homes, several tenant houses, and a large workshop, 30 by 50 feet, stocked with almost every piece of equipment needed for repair or manufacturing work, including a welder, drill press, grinder, acetylene outfit, portable power outfit for working on equipment in the orchard, a lathe, etc.

Any farmer likes to save money when he buys or builds equipment. Andy, who has a penchant for haunting army and navy surplus stores, has made several pieces of equipment which have been worth their weight in apples around the Rosinbum ranches. For instance, there were heavy snows during the winter of 1951-52. As a result, workers on the Rosinbum ranches were badly hampered in trying to move their ladders for pruning trees. Andy went to work and within a month had a traveling pruning tower.

Starting with an old orchard trailer as a platform, Andy mounted an

eight-inch turbine casting and a well casing in the center of the trailer. Inside the casing he used a two and one-quarter hydraulic ram for lifting. With a 30-inch stroke, the ram moves the platform into working position in four seconds.

Andy then mounted a steel plate on top of the piston. Two Studebaker wheel spindles, with brake drums attached, were mounted on the steel plate. He then placed the wood platforms on which the pruners stand, which are approximately five feet long and two feet wide, on top of the brake drums.

A sprocket wheel, connected to a smaller sprocket wheel by chain drive, gives a seven to one ratio for moving the platform in its 180-degree arc. The platforms are held in the position in which they are moved by the brake shoes inside the Studebaker wheels.

A master cylinder with a pedal and springs keeps the shoes pressed against the brake drums to prevent the platform from turning. When the pruner wishes to turn the platform, he steps on the brake pedal on the floor of the platform, turns a hand crank, and swings rapidly into the tree.

A tractor is used for pulling the platform and for providing the hydraulic power and the power for the air compressor. Cost of the entire outfit was \$400 for the compressor unit which is large enough to power five air pruners, \$400 for the pruning tools, and approximately \$150 for the tower itself. Cost of operation is approximately 90 cents a day for fuel for the tractor. No oil has been added as yet for hydraulic operation.

At present the pruning tower is used only in pruning the pears. "I'm

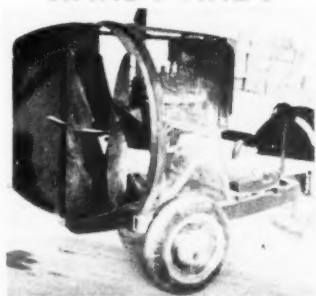


Pruning tower in operation, showing platform extended to its full height.

WESTERN EDITION AMERICAN FRUIT GROWER

definitely going to modify that machine for apples or build another for pruning apples—it's really a successful piece of equipment," Andy reported. "But as it is now, I can't lower the pruning platforms enough to get through apple trees, and in addition, the platforms aren't long enough to reach into the trees. But I think that can be remedied without

### HANDY ANDY



This portable fan blower was designed and built by Marion Townsend of Parker Heights, Wash., in the Yakima Valley. The fan is used in the blossom period to force cold air from a low spot in his sweet cherry orchard. Then in June, when a shower threatens to crack his cherries, he uses the portable blower to dry his fruit.—W. A. Luce

too much trouble," Andy says philosophically as you sense another laborsaving idea taking form in his mind.

THE END

### HOW TO LOCATE GOPHER RUNWAYS

THE gopher is one of the most destructive animals with which the orchardist on the Pacific Coast has to contend. Western gophers, like the pine tree mouse of the southeastern states, feed on the small fiber roots of the tree. The damage is done both to tree growth and production.

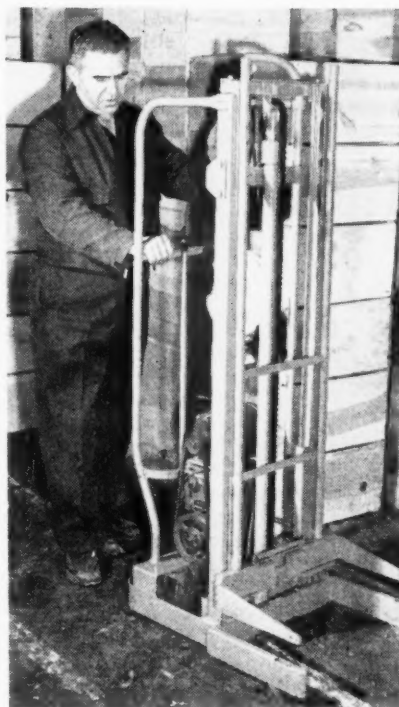
These gophers work like the common ground mole, having their main channels about 10 inches under the surface. It is in these channels that it is practical to catch them, as a gopher is seldom caught in a lateral feeder tunnel.

The University of California advises using a prodding rod—a small iron or steel rod about two feet long with a wood handle and not too sharp a point. The rod is pushed into the ground, indicating the presence of the tunnel when pressure on the rod lessens for a couple inches. The tunnel then can be opened and a gopher trap placed in the main runway.—Martin Joiner

APRIL, 1953

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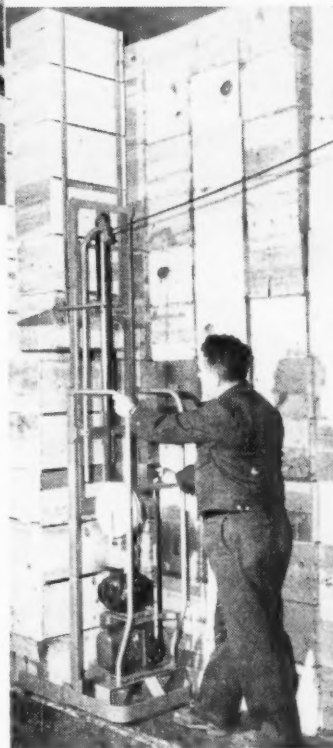
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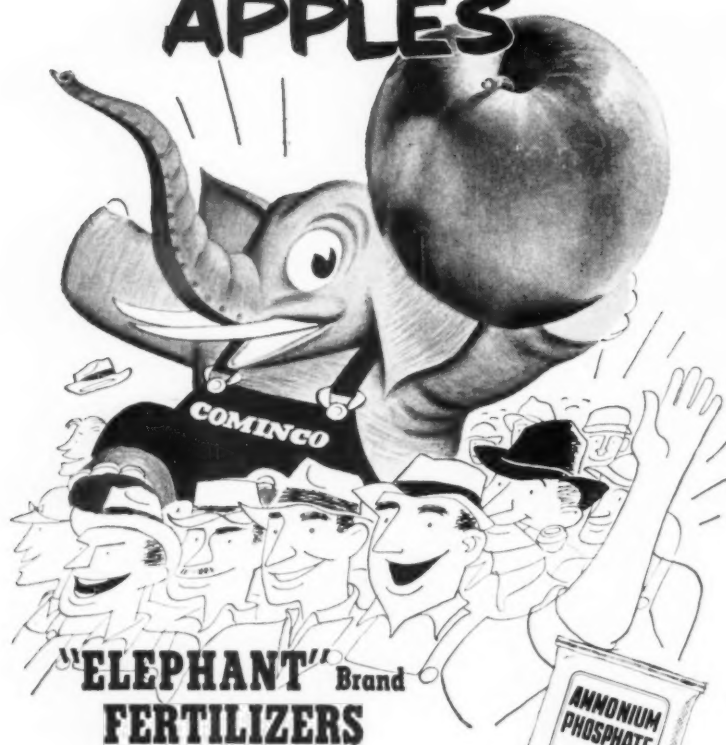
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## New Outlet for WESTERN FRUIT JUICES

FRUIT GROWERS have dreamed for years about a machine into which fruit can be put, a crank turned, and presto, a glass of sparkling, zesty juice. They have known that, locked up in oranges, apples, peaches and pears, there are thousands of minute juice cells, but the problem has been how to extract this juice in one swift, simple operation for millions of consumers to use. Now a new machine has been invented. Not by any chemist, manufacturer or fruit grower, but by an Alaskan bush pilot.

His name is Frank Kammer. It began back on a mild fall day in 1929 in Wenatchee, Wash. Frank stood on a curb, waiting to cross the street, when a truckload of apples turned a corner and tipped over, its cargo rolling in every direction.

### Birth of an Idea—and a Machine

As he stood there, he saw the apples, crushed by the wheels of passing cars, spilling their juice upon the street. And it occurred to Frank Kammer that a machine which could extract the juice of fruit and discard the pulp would be a wonderful thing for restaurants, hospitals, hotels, and drugstores. There would be no end to the benefits of such a machine, both to the growers of fruit and to the recipients of the healthful juices.

In time, after several years, he hit upon the idea which he believes answers the problem of a juicing machine—powering it with water, washing the fruit, straining it, and disposing of the pulp in a series of quick operations.

### Dreams Realized

In Wenatchee, he raised enough money to build a pilot model. And when this model was displayed to hotels, hospitals, and restaurants, the main question was, "How soon can we have one?"

No one could fail to see that here was the realization of the dream of everyone who has ever wanted a glass of fresh, tangy juice, apple or orange, grapefruit or pomegranate. Even such fruit as grapes and D'Anjou pears, not usually thought of as containing much liquid, relinquish their juice to the Kammer machine.

Today the Kammer juicer is being sold by the Apple Capital Manufacturing Co., Inc., P. O. Box 612, Wenatchee, Wash. If the new juicer works as well as hoped, bright new markets will be opened up for fruit juices.

THE END

WESTERN EDITION AMERICAN FRUIT GROWER

# WASHINGTON FRUIT LETTER

- **FTC Drops Charges Against Florida Citrus Mutual**
- **Extensive Pesticide Legislation Being Sought**

By **LARSTON D. FARRAR**

*Washington Correspondent, American Fruit Grower*

**T**HE "victory" that appears to have been won by Florida Citrus Mutual, the Lakeland, Fla., co-operative that represents 8,000 orange-grower members, in its tilt with the Federal Trade Commission, is having no effect, on the surface, on the FTC's continued pressing of its charges against Appalachian Apple Service, Inc., Martinsburg, W. Va.

So far, the recommendation of FTC attorneys, after a one-day hearing in Lakeland, Fla., that the anti-trust charges previously lodged against Florida Citrus Mutual, has not been acted upon by the full FTC, although this formality could take place at any time. Lynn C. Paulson, chief FTC attorney on the case, who recommended that the charges be dropped, told this reporter he was urging quick action by FTC commissioners, but that no one could predict whether or not FTC would follow his advice.

"This is a very unique case—perhaps unique in the annals of the FTC," Mr. Paulson said. "I was convinced that the Florida Citrus Mutual, in the 1951-52 growing season, was in violation of the anti-trust laws, and was guilty specifically of the charges we (the FTC) had brought. On the other hand, investigation proved to me that the organization had stopped the practices which would tend toward monopoly in the interim and that such practices were not being followed in this growing season.

"Since FTC is in existence to encourage law observance, and not to prosecute groups that unknowingly violate the law, I saw no point to continuing the procedure. It leaves us the right to re-open the case at any time, if and when the organization again is in violation."

FTC accepts many stipulations, without further actions during the course of a year from businesses. However, these businesses usually have to admit, in writing, that they were in violation of the law, however unintentional, and must agree to cease and desist from such actions in the future. Whether or not Florida Citrus Mutual must make such an admission, if it is not to be prosecuted by FTC, remains to be seen.

As to the Appalachian Apple Service case, no visible move by FTC is in sight to capitulate on its case. The growers and processors involved in that case have moved to dismiss it and have put in briefs to support their

motion. If the motion to dismiss is denied, the case will continue to be heard on its merits.

Meantime, the FTC itself, due to the change in administrations, is changing its face. James Mead has resigned as chairman (but not as a member), while the term of John Carson, leader in left-wing movements for some years, has expired and he will not be re-appointed. The appointment of Stephen J. Spingarn, another left-winger on the FTC, expires in October, which means that the leadership of the agency will be changed and two new members will be sworn in within a few months.

CONGRESS and the various state legislatures are witnessing a record number of bills being introduced to regulate the marketing of insecticides, fungicides, weed killers, ordenticides, and similar agricultural chemicals, Lea S. Hitchner, executive secretary of the National Agricultural Chemicals Association, Washington, D. C., has pointed out.

"This year 44 state legislatures meet and a good many of them already have seen bills introduced affecting the pesticides industry," he continued. "Representative James J. Delaney (D.-N. Y.) has introduced one of the first federal bills which affects pesticides—similar to the Miller Bill, introduced in the 82nd Congress."

The Delaney Bill is H. R. 2245, to amend the Federal Food, Drug and Cosmetic Act, providing for the regulation of chemical additives in food. Chemical additives is defined to include pesticides.

The legislation has been referred to the House Committee on Interstate and Foreign Commerce, whose chairman is Representative Charles W. Wolverton (R.-N. J.). There will be no hearings until late spring, and, in all likelihood, the bill will be pigeonholed.

Representative A. L. Miller (R.-Nebr.), a former physician, is preparing to draft three separate bills—one on the use of chemicals in the processing of foods; one on cosmetics; and another dealing with pesticides.

Representative Frank E. Smith (D.-Miss.) has introduced legislation to require that a more adequate statement of the ingredients of insecticides and other economic poisons be contained on labels.

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Says Mr. H. Grant Gardner

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MODEL 54Y



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The performance of your machine compares most favorably with all types of competition and your prompt service and advice have been very gratifying.

Anyone contemplating an air displacement fog-type sprayer should, in my estimation, thoroughly investigate Hurst Industries' Aqua-Jet Orchard Sprayer. It will measure up to their fullest expectations.

Yours very truly,

*H. Grant Gardner*  
H. Grant Gardner



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● Time after time, owners are kind enough to tell us of the great performance of their CARDOX Aqua-Jet Sprayers. This performance results from the exclusive Aqua-Jet principle of high-velocity air blast, high pressure pump and impinging jets—the most efficient combination yet devised for thorough coverage of the most trees per hour. See your Aqua-Jet dealer now for full facts on today's most remarkable sprayer.

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## The QUESTION BOX

My English walnut trees bloom every year but the male blossoms drop off before the female blossoms appear. Would it be possible to save the pollen until the female blossoms appear then pollinize them by hand? Should the catkins with the pollen be dried or kept in the refrigerator?—Oregon

Yes, walnuts can be pollinated artificially. The catkins can be collected after they have ripened and the pollen dusted into paper containers. After it has been collected, it would be advisable to store the pollen in a glass vial in the refrigerator at normal refrigerator temperature. Or the pollen may be purchased from Leo C. Antles Fruit Tree Pollen Supplies Co., Wenatchee, Wash. This pollen can then be applied by hand with a camels hair brush or by a duster or a mechanical blower of some kind.

Another way of answering the problem would be to collect branches of ripe catkins from a tree that does bloom at the right time and place them in your tree for cross pollination.

I have six Chinese geese for weeding an acre of strawberries. When should I put them out in the field?—Kentucky

In Kentucky new berry acreage is set out in April, and the geese are fenced in the berry field soon after planting. Geese can also be used to advantage in early spring of the picking year. The geese are removed from the berry fields when blossoms and the berry season come on and returned to the field after harvest.

We have a lot of trouble with aphids, mites, and curculio. I have been using parathion in the early sprays with injury to my McIntosh and Snows which are mixed in with other varieties. What changes can I make to stop the spray injury?—Michigan

Use 50 per cent wettable methoxychlor at the rate of two pounds per 100 gallons of spray or 25 per cent wettable dieldrin at the rate of one pound per 100 gallons of spray in the early sprays to control curculio. Use your parathion or substitute such as TEPP later on to control aphids and mites if and when they become a problem.

Also, activated carbon can be used as a means of reducing phosphate injury which may occur on McIntosh from the use of parathion or EPN-300 early in the season.

Where can I buy DMC?—Ohio

DMC is the active ingredient in Dimite which may be purchased from the Sherwin-Williams Company, 101 Prospect Ave., N.W., Cleveland, Ohio.

Should I collect the state sales tax on apples sold retail at the orchard, and I wonder, also, if I should pay sales tax on spray material used in the orchard?—Illinois

According to the attorney general's office, in Illinois a fruit grower must collect the sales tax on apples sold retail at the orchard.

The spray supply dealer is liable for the sales tax and not the person buying the material. Therefore, the dealer adds the amount of sales tax to the spray material when it is sold to the grower.

AMERICAN FRUIT GROWER



# dieldrin

***TOP*** control  
for plum curculio  
on peaches and apples!

The plum curculio, lygus and stink bugs have finally met their match. Dieldrin, the powerful, proven insecticide, is now approved and available for use by peach and apple growers for control of these destructive insects. From one to three applications of dieldrin spray in pre-bloom and post-bloom periods will do the job.

**Pests effectively controlled  
by early applications.**

Plum curculio and the catfacing insects become active with the first warm days of spring and are ready to damage peaches as soon as the fruit is set. Early kill with dieldrin prevents further losses from these pests.

Dieldrin's residual action against plum curculio, lygus and stink bugs, protects trees during the period of greatest activity. Applications after the first cover spray are not necessary and are not recommended.

**Dieldrin cost is low**

Just one pound of 25% dieldrin wettable powder (4 oz. of actual dieldrin) makes 100 gallons of spray—a decidedly economical dosage. Dieldrin can be used through the first cover spray—not afterwards. Label instructions should be observed carefully.

Get dieldrin from your insecticide dealer and keep your orchards clear of wormy fruit and catfacing damage.

Julius Hyman & Company Division

**SHELL CHEMICAL CORPORATION**

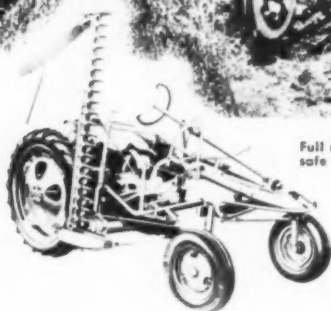
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Full mowing control with eyes front —  $\frac{3}{4}$  to  $3\frac{1}{2}$  mph. Quiet, safe V-belt drive. Hand or hydraulic lift. Five-foot cutter bar.



## Now it's TRACTOR-*Easy*

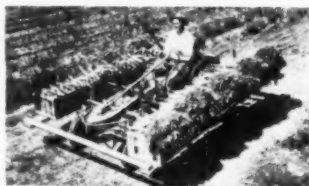
Making all kinds of orchard work tractor-*easy* is a great improvement over just "doing it with a tractor."

Everything that requires close attention in the orchard becomes easier on the comfortable, low-clearance, front seat of the Allis-Chalmers Model G Tractor. All your implements — from plow to mower — are in open, *front* view . . . no neck work.

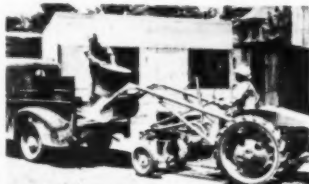
Here's man-sized orchard power that's tractor-*easy* on your overhead, too! The Model G carries efficient mounted implements at horse-tool prices — operates on *quarts* of fuel instead of gallons.

There's a new "kick" in fruit growing when you make it tractor-*easy*. Every hour's work can pay better. You can step up income with timely special crops. Find out. Ask your Allis-Chalmers dealer for a demonstration.

**ALLIS-CHALMERS**  
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.



A simple, home-built, mounted platform like this makes fruit hauling easy, too.



Hydraulic-powered front scoop eases many an orchard chore. Various styles available.

Allis-Chalmers Tractor Division, Milwaukee 1, Wis., Dept. 16

☐ Send catalog on the Model G Tractor

☐ I would like a demonstration.

Name .....

Town .....

RFD .....

State .....

## The "Gillette" Apple

By FRANK W. BALL

**M**OTORISTS traveling over State Route 7 in southeastern Ohio will notice a small monument in a roadside park in Rome Township of Lawrence County. Mentioned prominently on the bronze plaque attached to the rough granite stone are the families of the Gillettes, the Coxes, and the Turleys. Another family that might have been mentioned is the Gardners. All are descended from Joel Gillette who migrated into Ohio from New York state in 1815.

History will record the Gillettes as leaders in three things: razors, plays (William), and apples. Probably no family in America has added more to our fruit supply than the Gillettes.

### A "Runt" Is Planted

Joel Gillette lived a year at Marietta in the upper Ohio Valley before buying a tract of land some miles downstream. Here he moved, and the following summer he ordered several seedling fruit trees from Marietta. When they arrived he found a "runt" among them.

Feeling that it was hardly worth the ground that it would take up, he gave it to his little boy, Alanson. Alanson took it toward the broad Ohio, setting it out in a field near the water's edge. Here it overcame the weeds and brush with the help of the lad who prided himself in the owning of a tree.

### The Seedling Prospers

True to story-book fashion, the little seedling grew and waxed strong—and fruitful. Fruit growers of the region noticed that the size, shape, and taste of the new fruit were far better than the average and they began grafting from it. The Gillette apple soon became the most noted in the valley.

It was 13 years before the apple gained a name other than "The Gillette Apple"—the writer thinks it should have retained the name. Rome Township is apparently named for the Rome of New York. A neighbor of the Gillettes, George Waldon, named it the Rome Beauty in honor of the township and the fine appearance of the fruit.

Joel Gillette's cousin, H. N. Gillette, pioneered in a nursery to promote the famous apple. His son, Preston, left the fertile valley to take part in the California gold rush of

1849. He found some gold and went into the lush valleys of Oregon to find some more—through the introduction of the Gillette apple to the Pacific Coast states.

Writing back to the Buckeye state for the pride of the family, he waited anxiously until several hundred trees made their way down the Ohio and Mississippi, around South America, and up the coast. They arrived in time for spring planting, and today these Gillette trees have hundreds of descendants in the western states.

#### Industrial Development

The original area that gave birth to the Rome Beauty doesn't see nearly the apples produced it once did. A continuation of diseases and insects has made fruit growing more expensive. Too, the Ohio Valley has become an industrial area and many have left



Monument to the Rome Beauty apple in Rome Township, Lawrence County, Ohio.

the farms to enter the factories. However, some still cling to the farm, the orchard, the garden.

Among prominent men in the fruit industry is Milton O. Gardner, great-grand grandson of Joel Gillette, whose prosperous acres in Rome Township produce thousands of bushels of fruit annually. He owns two large orchards himself and is overseer of a third. And each year he produces about 3,000 gallons of cider.

The original tree? It's end was tragic. Little Alanson planted it too near the Ohio. The turbulent waters kept eating at the bank and in 1857 the progenitor of a mighty apple race toppled into the swollen stream.

#### The Inscription

The inscription on the marker reads:

ATTRACTIVE AND RELIABLE. FOREMOST GIFT  
OF OHIO TO THE APPLE INDUSTRY.  
THE ROME BEAUTY

HAS BORNE FAME TO THE STATE  
AND TO HER FRUIT GROWERS.

THE ORIGINAL TREE WAS PLANTED IN 1817 BY  
ALANSON GILLETTE NEAR PROCTORVILLE. H. N.  
GILLETTE, CORNELIUS TURLEY AND NELSON COX,  
PIONEER LAWRENCE COUNTY FRUIT GROWERS, WERE  
ACTIVE IN ITS EARLY DISSEMINATION.

AN APPRECIATION BY THE  
OHIO STATE HORTICULTURAL SOCIETY 1919.

the difference is...  
**Phygon-XL** the orchard fungicide

Read what  
agricultural  
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**FROM ILLINOIS**—Phygon-XL sprays superior to other treatments in reducing Peach Blossom Blight infection.

**FROM PENNSYLVANIA**—90% control of Peach Brown Rot.

**FROM VERMONT**—Increase in apple yield and quality greater with Phygon-XL than with sulphur paste, over 4-year period.

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Advise local supplier of your needs beforehand to insure availability. For free Phygon-XL Bulletin "3, write to:



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Naugatuck Chemical Division, Naugatuck, Conn.

manufacturers of seed protectants—Spergon, Spergon-DDT, Spergon-SL, Spergon-DDT-SL, Phygon Seed Protectant, Phygon Naugets, Phygon-XL-DDT, Thiram Naugets, Thiram 50 Dust—fungicides—Spergon Wetttable, Phygon-XL—insecticides—Synklor-48-E, Synklor-50-W—fungicide-insecticides—Spergon Gladiolus Dust, Phygon Rose Dust—miticides—Aramite—growth retardants and herbicides—MH-30, MH-40—pre-emergence weed killers—Alanap-I.

# STOP



## CHIPMAN

### **Stops 'em dead!**

This season use **Chipman** fruit sprays to stop insects, diseases and weeds. These chemicals are backed by over 40 years of manufacturing experience. Each product is made under the most careful chemical control and supervision, and all products are thoroughly tested in the field.

You can depend on Chipman sprays to do a good job!

**CHIPMAN CHEMICAL CO.**  
Dept. K, Bound Brook, N. J.

Manufacturers of Weed Killers Since 1912 - Of Fruit Sprays Since 1931

HI-TEST LEAD ARSENATE  
DDT SPRAY POWDER  
PARATHION SPRAY POWDER  
BENZAHEX SPRAY POWDER  
ARAMITE SPRAY POWDER  
CUBOR (Rotenone) DUSTS

COPPER HYDRO BORDO  
BASIC COPPER FUNGICIDE  
DRY LIME SULFUR  
WETTABLE SULFUR  
FIRE BLIGHT DUST

ATLACIDE—Weed Killer  
2,4-D WEED KILLERS  
BRUSH KILLER

WRITE FOR  
**1953 Products Booklet  
and Special Circulars**



Honeybees at work in apple blossoms.

## POLLINATION

(Continued from page 13)

workers published several bulletins on the sex of grape varieties and the need of interplanting varieties having poor pollen with kinds having good pollen.

In the wild, sufficient staminate or male vines occur to take care of the pollination. Due to the uncertain production, varieties that require cross pollination have been dropped from the recommended lists. Unfortunately many of Roger's grapes, such as Salem, Lindley, Merrimac, Gaertner, Goethe, and Barry, also Brighton, Eumelan, and Erie are self-unfruitful since they are functionally female.

Most all of the brambles, including the cultivated raspberries and blackberries and currants and gooseberries are self-fruitful. Recently the New York station has pointed out that the so-called nubbins in strawberries and imperfect fruits in the blackberry, thought to be pollination problems, may be due to tarnish-bug injury. DDT applied just before buds open controls this pest.

The degree of self-fruitfulness of apples varies with different varieties. Some kinds, as the Northern Spy, are self-unfruitful, the McIntosh partially self-fruitful, and others, as the Baldwin, self-fruitful. The elimination of Baldwin and numerous other varieties from our modern orchards has caused the pollination problem to become more acute.

Since even the so-called self-fruitful varieties may be benefited during certain years by cross pollination, it is good practice to have at least two compatible varieties in an orchard. The nearer the pollinator is to the variety to be pollinated, the better the set, so not over four solid rows is recommended. If a variety produces pollen with a low germination, as the Gravenstein and Rhode Island Greening, at least two more compatible varieties should be included.

Generally speaking, apple varieties may be divided into two classes, those

with pollen of good germination and those with pollen of poor germination. The so-called diploids, that is varieties with 34 chromosomes in their somatic or body cells, belong to the first class, while varieties with 51 chromosomes in their somatic cells (the triploids) belong to the second or smaller class.

Some of the best known diploid varieties are the Ben Davis, Cortland, Delicious, Early McIntosh, Gallia Beauty, Golden Delicious, Jonathan, Lodi, McIntosh, Macoun, Milton, Monroe, Northern Spy, Northwestern Greening, Oldenburg, Rome, Starking, Twenty Ounce, Wealthy, Yellow Newtown, Yellow Transparent, and York Imperial. Winesap belongs to the same group but since its pollen clumps up badly it is not considered a desirable pollinator.

With the possible exception of Cortland and Early McIntosh, none of these diploid varieties have been found to be incompatible with one another. Some years when the weather is abnormally cool there may be too wide a spread between the early bloomers as Lodi, Oldenburg, and Yellow Transparent and the late bloomers as Rome, Spy, Monroe, Macoun, and Northwestern Greening.



Pollen being applied with a brush.

When late-blooming varieties are planted the time of bloom must be given consideration.

A lesser number of our commercial varieties are triploids. In this list are some of our leading varieties, namely, Baldwin, Gravenstein, Rhode Island Greening, Stark, Stayman, Tompkins King, and Webster. Since these varieties produce pollen of low germination, it is advisable to include at least two compatible diploid varieties when planting a triploid.

#### Pears Self-Unfruitful

All the common pear varieties have good pollen but since they are generally self-unfruitful it is advisable to plant at least two compatible kinds in an orchard. The Bartlett and Seckel being incompatible, a third variety

(Continued on page 36)



## HOW Clarence Stover modernized an old sprayer with a John BEAN *Speedaire*

... to get  
**CLOSER CONTROL**  
with **30% LESS**  
**SPRAY MATERIAL**

Clarence A. Stover and son, Lawrence, owners and operators of a 45 acre orchard near Berrien Springs, Michigan, converted their 12-year old John Bean Royal 20 sprayer into a modern air type sprayer through the addition of a John Bean Speedaire. They find that material savings of 30% resulted for all fruits (pears, cherries, prunes, peaches) except apples. Apple spray materials savings were 20%. Additional advantages were: much better control than with hand spraying, in fact they stopped spraying apples on July 1 because control was so good at that time. The whole spraying operation is much easier since one man can now handle the job alone.

**SEE YOUR JOHN BEAN DEALER TO LEARN HOW MUCH MORE  
A SPEEDAIRE CAN MEAN TO YOUR SPRAYING OPERATIONS**

**No sprayer has ever outperformed  
the SPEED SPRAYER**

That's right! The most economical sprayer in the land is the John Bean Speed Sprayer. For the really big spraying jobs it can't be beat. Time after time the Speed Sprayer has proved its economy, with better coverage and better control of all pests.



Write today for a John Bean Catalog. In it you will find the sprayer to fit your needs exactly.  
Dept. AF-4



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LANSING 4, MICHIGAN  
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Division of Food Machinery and Chemical Corporation



GIVE YOUR  
SPRAY PROGRAM

*Flexibility*

WITH

**CRAG**

Trade-Mark

**FRUIT FUNGICIDE 341**

used with phenyl mercury\*

Give your apple scab control program more flexibility by using a mixture of CRAG 341 and phenyl mercury, each at half-dosage. When used in pre-bloom and petal fall sprays, this mixture gives outstanding scab control by combining the effective protection of CRAG 341 with the after-rain control of phenyl mercury. No injury has resulted from the use of this combination in extensive field use over a four-year period.

In recent tests comparing fruit finish on apples, CRAG 341 used with phenyl mercury in the early sprays, followed by CRAG 341 in the cover sprays, gave the best finish of any of the fungicides tested. This program means more U. S. No. 1 apples in *your* crop and more money in *your* pocket.

— CRAG 341 is easy and pleasant to handle in either dilute or concentrate sprays—

*Use it  
and See!*

\* Phenyl mercury acetate or phenyl mercury triethanol ammonium lactate or phenyl mercury monoethanol ammonium acetate.

"Crag" is a registered trademark of Union Carbide and Carbon Corporation.

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Carbide and Carbon Chemicals, Limited, Toronto



W. S. Gifford of Berrien Springs, Mich., has found a way to increase pollination of Bartlett pears in his orchards. When the trees are in their second year of growth, like the one shown in this photograph, he inserts a few buds of Old Home, a variety which also is blight resistant. When the trees mature and are in production, the Old Home branches provide excellent cross-pollination with the result that heavy yields of Bartlett pears are produced.—E. S. Banta.

## POLLINATION

(Continued from page 35)

must be included if these two kinds are desired.

In certain areas in California, the Bartlett is self-fruitful but the fruits are less elongated. Flemish Beauty, in the absence of a compatible pollinator, may produce seedless fruits. Several seedless pear introductions are of this variety.

### Three Cherry Groups

There are three distinct groups of cherries, namely, the sweets that are diploids and the Dukes and sours that are tetraploids.

*Sweets.* All varieties are self-unfruitful and some varieties are incompatible with one or more kinds even though they have pollen of high germination. The most important incompatible group consists of Napoleon, Emperor Francis, Bing, and Lambert. If any two of these varieties are planted in the same orchard, a compatible variety—Black Tartarian, Schmidt, Giant, Hedelfingen, or Yellow Spanish—must be included.

*Sours.* The Montmorency and English Morello, the two most common varieties, are self-fruitful. Some growers put bees in their sour cherry orchards for insurance against inclement weather. However, if the weather is 50° F. or below there will be little bee flight.

AMERICAN FRUIT GROWER

*Dukes.* As the Duke varieties are self-unfruitful or partially so and since they can be pollinated successfully by either sour or sweets, they should be interplanted with a sweet or a sour.

#### Five Groups of Plums

This fruit can be divided into five groups, namely, European, Japanese, American, American-Japanese hybrids, and cherry-plums.

*Europeans.* This group can be subdivided into self-fruitful and self-unfruitful varieties. In the former can be included Agen, Italian Prune, Reine Claude, Stanley, Yellow Egg, and the French and Shropshire damsons. Self-unfruitful varieties are Albion, Grand Duke, Hall, Imperial Epineuse, and Tragedy. As the self-fruitful kinds may be benefited by a compatible pollinator during certain seasons, it is advisable to plant more than one variety.

*Japanese Varieties.* These varieties are either self-unfruitful or partially so and it is advisable to plant at least two kinds. Elephant Heart has been an uncertain producer even when inter-planted with several other Japanese sorts. Recently the California Agricultural Experiment Station has reported that the Redheart, a new variety, has been found to be a satisfactory pollinator for this plum.

*American Varieties.* These varieties are self-unfruitful and at least two different kinds should be interplanted.

*American-Japanese Hybrids.* All of these hybrids require the presence of a pollinator. Kaga, South Dakota (S.D. No. 27), and Toka are recommended as satisfactory.

*Cherry-Plums.* Compass is recommended in Minnesota as a pollinizer for Oka, Opata, and Sapa.

#### Peaches and Nectarines

With the exception of a very few varieties that produce impotent pollen, such as Mikado and J. H. Hale, the peach and nectarine varieties are sufficiently self-fruitful.

#### Apricots

Most varieties are considered self-fruitful although the Riland is self-unfruitful. Seedling apricots that have been shy bearers are known to have produced better crops when bouquets from other trees were brought in. The planting of at least two different kinds is recommended.

#### Quince

The main variety grown in the East is the Orange and this variety sets well in large blocks and on isolated trees.

THE END



# ALL TRACKS LEAD TO YOUR FARM



Your farm may be miles from the nearest railroad, yet railroads make possible the automobile, the tractor and the truck you use every day. For the building of all these vehicles depends upon a great variety of raw materials and finished parts that only the railroads' continent-wide assembly line can bring together.

And railroad tracks run *from* your farm, too — furnishing the broad highway that reaches from your fields to every corner of the nation, so that the produce you raise has a market as big and broad as America itself.

In doing their vital job, the railroads pay for building and maintaining their steel highways and they pay state and local taxes on them — the same kind of taxes *you* pay for the support of schools and local roads and the general services of government.

So you have a double interest in these railroad tracks — for they not only connect your farm with all America, but they also are your neighbors and fellow taxpayers.

## ASSOCIATION OF AMERICAN RAILROADS

WASHINGTON 6, D. C.

You'll enjoy *THE RAILROAD HOUR* every Monday evening on NBC.





**Berry Growers**  
*Cut your Weeding Costs*  
 with **CRAG** HERBICIDE-1  
Trade-Mark

CRAG Herbicide-1 increases your profits by reducing hand labor for controlling weeds in *strawberry* and *raspberry* plantings. This new chemical combines effective weed prevention with crop safety.

CRAG Herbicide-1 controls most germinating weeds such as chickweed, purslane, lamb's quarters, pigweed (red root), and carpetweed, and germinating grasses such as crabgrass and foxtail. In widespread experiment station tests, and grower use on over 10,000 acres of strawberries in 1952, CRAG Herbicide-1 has given outstanding weed control. Strawberry yields were profitably higher because of less weed competition.

CRAG Herbicide-1 is being used on 54 other crops including: corn, asparagus, gladiolus, roses, certain ornamentals, shrubs, evergreens, and other nursery stock.



Also available in 2- and 50-lb. packages.

For FREE illustrated folder on CRAG Herbicide-1, write to:

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Eleanor Gilman

Old hay rake is used to gather brush from around trees and the resulting windrows are swept away with buck rake to bonfire.

## No Hand Labor Here

**N**OT only pruning but getting rid of the resulting brush efficiently has become a three-step, tractor-run hydraulic job at Alice M. Mills' 125-acre apple orchard, Kinderhook, N. Y., thanks to home-made equipment built in his workshop's welding corner by orchard manager, Abe Van Alstyne. Each of the three units involved contributes its share toward eliminating tedious, time-consuming hand labor.

First, there is a pruning platform on a tractor-drawn trailer that is hydraulically raised and lowered on a hoist that once raised autos at a filling station's grease rack.

To pick up brush, Van Alstyne reconverted an old dump hay rake which cost \$5. The rake rides alongside a tractor to which it is cross-braced by a bar of one and one-half-inch galvanized pipe. At its far end, it rides on a pair of swivel wheels that came off a rubber-wheeled wheelbarrow. Load dumping is done by the tractor's hydraulic lift.

Six evenly-spaced 30-inch lengths of three-fourths-inch galvanized pipe along the rake keep gathered prunings from matting and provide easy dumping when teeth are raised. The rake's 10-foot reach easily gathers brush from under tree limbs as the driver circles the tree, and leaves prunings in piles between tree rows. Total cost was \$100. The machine rakes 15 acres a day, eliminating all hand brush picking.

The windrows of brush piles are quickly removed by a buck rake. Unlike others previously used at the orchard, this pusher runs off the tractor's hydraulic lift. Its five wooden

teeth, 12 feet long, are made of 2x8-inch planks sharpened at the ends. Unlike rigid-mounted pushers, this hydraulic one allows the teeth to be raised in wet or bumpy terrain. With this rig, the driver can sweep backward or forward in high gear and can move between 20 and 30 acres of prunings a day.

Other features at this pacemaking 125-acre orchard are: planting a new block of trees every five years, thus having trees in all stages of growth; using orchard grass-ladino sod cover, the latter kept coming by liming; using four to one concentrate speed sprays, meaning only one-fourth as many trips to the 2,000-gallon water tower as formerly.—William Gilman

## NEW BLUEBERRIES

**T**HREE new blueberries—Earliblue, an early variety; Bluecrop, a mid-season variety; and Herbert, a late variety—have been developed by the USDA and the New Jersey Agricultural Experiment Station.

All three of the highly productive new varieties have shown up well in trials in eastern blueberry areas—New Jersey, Michigan, New England, New York, and Maryland. They are not recommended where stem canker is a serious disease, as in eastern North Carolina. The Earliblue and Bluecrop varieties appear promising in western Washington and Oregon, where early maturity is desirable.

Information on sources of supply may be obtained from G. J. Galletta, Agricultural Experiment Station, New Brunswick, N. J.

AMERICAN FRUIT GROWER

## PEEL YOUR WAY TO MORE APPLE SALES

**WILLIAM DARROW, JR.**, president of the Windham County (Vermont) Fruit Growers' Association, uses a new slant to help increase apple sales at his packing plant. He gives his customers a demonstration of a handy, inexpensive little gadget that not only peels the apples but removes the core and slices all in one operation.

He believes that if the housewife is convinced that apples can be peeled without drudgery she will buy more apples—and a corer, too. Darrow claims he's not in the hardware business, but if he can build up additional apple sales he's for it.

As this may be the answer to more sales for other growers, the address of the manufacturer is the Goodell Company, Antrim, N.H.—*Charles L. Stratton.*



William Darrow, Jr. (left), watches John Chandler, executive vice-president, New York & New England Apple Institute, and operator of Meadowbrook Orchards in Massachusetts, as he tries out the silent but effective apple salesman.

## USE OF CONCENTRATES INCREASING

**T**HE trend continues toward the increased use of the mist-blower type of spray machine using concentrated materials. The rate of concentration most widely used last season was in the 3X or 4X category. Very few commercial growers used high concentrations such as 8X or 10X.

The necessity for the very exact co-ordination of the forward motion of the spray machine with the number of gallons discharged per minute makes the use of high concentrations difficult under commercial operations. Many growers have found that by using 3X to 4X concentration they largely avoid these difficulties and can obtain adequate coverage and satisfactory pest control.—*John C. Dune-gan, USDA.*

APRIL, 1953



### Kelly's FRUIT TREES

NOW we issue a New York State Dept. of Agriculture certificate which guarantees our cherry trees to be virus-free. Supplies of fruit trees are limited. It will pay you to order early this season. Our fruit trees . . . APPLES, PEARS, CHERRIES, PLUMS, PEACHES . . . are sturdy, northern-grown stock. Write for FREE CATALOG today.

**KELLY BROS. NURSERIES, INC.**  
Established 1880  
158 Maple St., Dansville, N. Y.

Watch for July Directory Issue of  
AMERICAN FRUIT GROWER

## ROTO- GARDEN TOOLS HOE

**MORE WORK—  
WITH LESS EFFORT!**

ROTO-HOE offers you the complete garden tool—Till, Cultivate, Compost, gives you portable power "most anywhere." The powerful dependable Lauson 2 h.p. gasoline motor rotates 15 specially-hardened teeth at high speed, thoroughly mixing and aerating soil up to 6" deep. You will find that gardening can be a pleasure—the hard work is removed.

**COST?** That's even more surprising—the same low \$134 price established in 1947 for the complete ROTO-HOE basic unit shown above.

**YEAR 'ROUND Attachments** do many extra jobs: Mow lawn, trim edge, mulch, blow snow. All are low in cost too. Investigate this real gardening value. See your dealer for a demonstration; write for free illustrated circular to:

**ROTO-HOE & SPRAYER CO. Box 53, Newbury, Ohio**

2 h.p.  
(as shown)  
only  
**\$134.**

## HIGH PROFIT GROWERS ARE USING BUFFALO TURBINE



This is the machine growers are buying in '53. The Buffalo Turbine has proven itself in the biggest orchards in the United States. You, too, should buy a Buffalo Turbine.

### —HERE'S WHY—

The Buffalo Turbine, because it is a concentrate sprayer and because it is designed to meet modern fruit growing conditions, embodies the following important characteristics:

60% less in original cost.  
The inclusion of a dust bin makes it possible for the grower to dust when necessary.  
One-man operation.  
75% less in weight.  
50% less maintenance cost.  
Can be pulled by the smallest of field tractors.  
All-steel-plated-liquid tank insuring long service.  
All moving parts which come in contact with caustic spray materials are stainless steel, brass

or plated.  
Less chemical material is needed per tree.  
Less run off.  
Greater penetration.  
This machine is completely universal—sprays, dusts or both—covers field, orchard crops and is being used successfully for weed or brush control.



All growers who wish to increase their profits in 1953 should have the facts on the Buffalo Turbine. If you will write us today, we will be glad to send you full particulars.

Buffalo Turbine Agr. Equip. Co., Inc., Dept. A  
Gowanda, N. Y.

Please send me your literature.

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## VIRUS-FREE PLANTS

(Continued from page 15)

After this method had been tested at experiment stations, it was tested with nurseries co-operating in propagating large stocks. These co-operating nurseries have propagated their stocks in fields isolated from other strawberry fields to reduce aphid spread to a minimum. These fields have then been dusted regularly to keep them aphid-free.

### Availability of Plants

When can growers obtain virus-free stocks? The first four varieties to be obtained virus-free and to be propagated are Klondike, Klonmore, Tennessee Beauty, and Tennessee

## HANDY ANDY



Harold Woodworth, Madison, Ohio, uses this brush shredder in his orchard. The blades are standard, serrated coulters mounted on a steel bar with ordinary disc spools or wooden spacers. The two large spools between the end blades are concrete and are about three inches smaller than the coulter. These regulate the depth of the blades which are spaced about nine inches apart. It is necessary to go over the rows only once to complete the job.—Herbert Woodworth

Shipper, and the next seven varieties Marshall, Blakemore, Howard 17 (Premier), Massey, Sparkle, Tennessee, and Catskill.

Foundation stocks of these have been propagated and were sent to nurseries in 1952. Some plants of all of these should be available for growers in the spring of 1954. Virus-free stocks of still other varieties should be available in succeeding years.

Will virus-free stocks remain virus-free? When virus-free plants are set by growers, such stocks remain free of virus unless infected by aphids from virus-infected plants in the vicinity. If planted alongside or near an infected planting, they, of course, will become infected unless the plantings are kept aphid-free by spraying or dusting with an insecticide. If

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aphids are numerous and winged forms abundant, spread of virus may be rapid. If the infected plantings are sprayed or dusted and all spread of aphids stopped, new plantings even close by will remain virus-free.

It has been found that some of the wild strawberry plants in both eastern and western parts of the United States are virus-infected, hence such plants constitute a possible danger to virus-free plantings. Wild plants near virus-free plantings may be dusted with parathion to kill aphids or may be destroyed by weed killers.

Will virus-free stocks pay? In Pacific Coast states, growers know that virus-free plants are necessary for their continuing existence as growers. Aphids are abundant and the Marshall variety may become valueless when infected. Virus-free stocks and aphid control are essential.

In eastern states Catskill, Fairpeake, Midland, Fairfax, and Dorsett are often dwarfed just as badly and are just as unproductive as is Marshall in the West. Stocks of some of these varieties may grow fairly vigorously even though infected but unless they are virus-free they cannot be depended on to produce the large crops of which they are capable.

At the other extreme are varieties like Temple, Fairland, and Northwest which are highly tolerant of virus. We do not know whether they would produce better if virus-free but they do constitute a menace to other varieties.

#### The Future

Virus-free plants make better plant beds for nurseries as well as for growers. Virus-free plants of some varieties make two to three times as many runner plants as infected plants. This in itself will stimulate the demand by nurserymen for such superior stocks. If all nurseries have virus-free stocks growers will have sources of much more dependably productive plants. Through a score of years it may be expected that fewer and fewer virus-infected plants will be grown until virus-diseases become a minor problem.

THE END

#### KNOW—DON'T GUESS

**AMERICAN FRUIT GROWER'S 1953 Compatibility Chart of Insecticides and Fungicides** is available now printed in three colors on heavy Bristol board paper so it can be posted in office, barn, or spray shed for quick, handy reference.

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## ROOT ROT OF PEACHES

(Continued from page 16)

no relationship between nutritional treatment and injury to the trees. Digging around the trees to a depth of six inches below the ground level showed no injury to the crown.

However, at depths ranging from eight to 14 inches below the soil surface, the bark of the roots was dead and the mycelium of a fungus was found. At approximately the same time Dr. John H. Weinberger found a similar fungus in a winter injury experiment planted in 1945 at the USDA Horticultural Field Labora-

tory at Fort Valley, Ga.

In the spring of 1952 two rows of trees in the orchard being used for nutrition studies were excavated down to the lateral roots. The idea was that if the crown of the tree was exposed to the air it would dry out more rapidly and that this might have some effect in slowing down or preventing the disease.

About the third week in September, following a brief rainy period, a large cluster of yellow mushrooms was found in one of these excava-

tions. Further search showed three more trees with the same fruiting bodies. Identification of the disease as Clitocybe root rot was made by pathologists of the Georgia Experiment Stations and confirmed by a representative of the USDA Division of Forest Pathology.

### Widespread Infection

A quick survey indicated that Clitocybe root rot was present in all areas of the state where trees had been planted on old orchard sites. One orchard was found on newly cleared land in which the disease was present. The disease was not found in young orchards planted on old cotton land. Workers in South Carolina made a survey and found Clitocybe root rot present in orchards in that state.

In the Fort Valley area 22 out of 24 orchards were found to have the disease. The immediate replanting of old orchard sites is a common practice in the South Georgia peach section. In some orchards in which young replants were dying or dead, the mycelium of Clitocybe root rot was found on old roots left in the soil from the preceding trees.

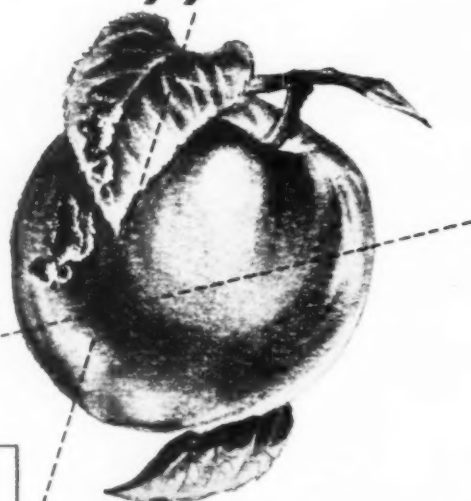
In Joe Langdon's orchard near Woodbury, the one to which we were first called in 1938 there were some interesting findings. In the block of trees in which he had had so much trouble with replants dying, 14 out of 26 infected trees had the remnants of old mushrooms around the base. One tree had a fresh fruiting body on the crown. Three trees still living were found to show attack by this root rot.

In the orchard at the Georgia Experiment Station 95 per cent of the original trees planted in 1929 were living after 17 years. In the second crop of trees planted on the same land, 55 per cent were dead after six years, and the majority of these trees died as a result of Clitocybe infection. After the disease once attacks there is a gradual build-up of the sources of infection. This explains why two-year-old trees are often found dying in the Fort Valley area where there have been several generations of trees on the same land.

Why haven't we recognized the presence of this disease before this time? There are several reasons. Our cultural practices tend to mechanically prevent the formation of the fruiting bodies. In discing the orchards, we throw the dirt towards the tree row. We mound the trees for the older type of borer control. Our usually dry weather in the fall prevents development of its typical mushrooms.

Even if we had seen the white mycelium of the fungus growing on the trees we would have thought it

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was a secondary fungus following perhaps winter injury or injury due to the chemicals used in borer control. Then, too, the disease oftentimes starts low on the crown and the trees decline rapidly before any infection is visible.

#### What Is The Remedy?

What are we going to do about the disease? The obvious thing perhaps would be to find resistant rootstock. From observations made on the collection of rootstocks that Dr. Weinberger has at the USDA Horticulture Field Laboratory at Fort Valley and those that we have at the Georgia Experiment Station, we now know that Tennessee Natural, two strains of Tennessee Natural (Tennessee Red Leaf and Bound Brook Red Leaf), Shalil, and Yunnan stocks are susceptible to Clitocybe root rot.

There are other possible stocks on which peaches may be propagated, but finding a resistant stock does not look too promising. There are some possible biological control methods but these are expensive and how effective they will be remains to be seen. The use of some of the newer disinfectants is perhaps another method.

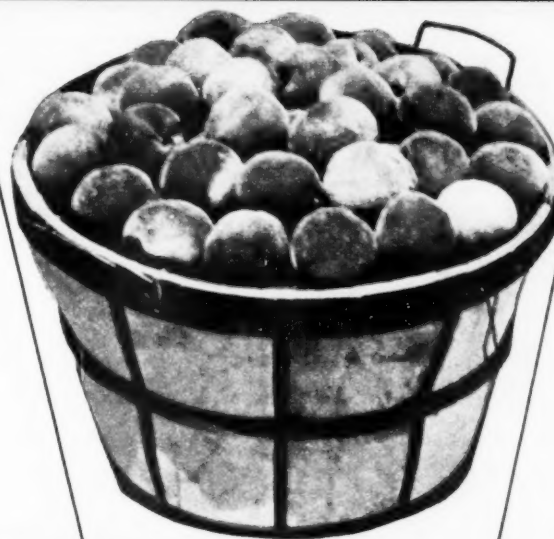
For the present it would appear that the most practical method of control is to follow a cropping system which will avoid replanting on either old peach land or on newly cleared forest land. We have young experimental plantings which have been delayed five years between the old and new plantings. Results to date are not sufficient to indicate whether this delay is adequate.

It should be made clear that Clitocybe root rot is probably not the complete answer to why peaches will not follow peaches successfully, but in Georgia it apparently is a major cause of heavy tree losses when old orchard sites are replanted. THE END



English or Persian walnut shells, ground fine, are shown here being used to clean an aluminum tire mold in The Firestone Tire & Rubber Company plant in Akron, Ohio. Every year the company buys 125,000 pounds of ground shells for this purpose as the walnut powder cleans efficiently and does not pit the aluminum as sand and other materials are apt to do.

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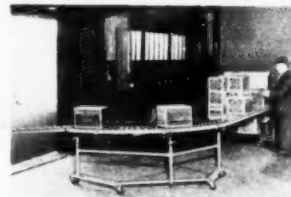


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From where I sit... by Joe Marsh

## Wrong "Train" of Thought

Most of us knew the streamliner stopped about four miles from town last Thursday—but we didn't know *why*...

Seems the train was hurrying along, then came the screeching of brakes—some fellow had pulled the Emergency Stop cord.

When the conductor asked him why he did it, he said, "The train was just going too fast—I wanted to get you to slow down."

From where I sit, that streamliner has been going at that speed for the past seven years with a perfect safety record and the pas-

sengers have always been pleased.

Now—along comes a fellow who wants the train to go at his speed. Some people are like that. Some still would begrudge another person's right to a temperate glass of beer even though that person wouldn't dream of flashing a "Stop" sign on their preference for, say, milk, coffee or tea. Respecting the rights of others is the only way we can all keep "on the right track."

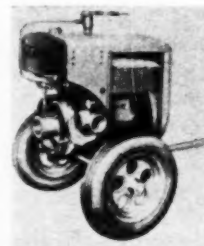
*Joe Marsh*

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## NEW FOR YOU

### A New Pump

Recently we learned of a new pump which is ideal for fruit, vegetable, and pasture irrigation. The Carver Model 2 WHI pump is designed especially for high pressure sprinkler irrigation. It is easy to maneuver and features exhaust priming, automatic discharge check valve, and greaseless mechanical seals. We suggest you write Carver Pump Co., 1440 Hershey Ave., Muscatine, Iowa.

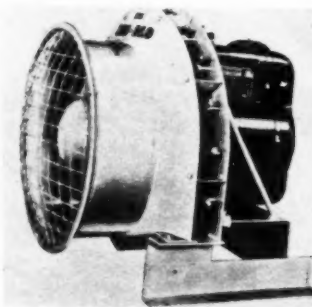


### Try One



From the Chinese War Zone comes an amazing dwarf peach tree. The tree, propagated by a California nursery, never grows over five feet tall yet bears heavily. Little Jeanne Grimshaw, one and one-half years old, is pictured in front of the tree. If you would like to try a few of these, write A. Grimshaw, Grimshaw Nursery, Hayward, Calif.

### Big and Powerful



Growers report that the "Big Bes-Blo" blower attachment is doing a splendid job. The unit, powered by a twin cylinder air-cooled engine, gives excellent coverage on both sides of the tallest trees. Air delivery is 15,000 cubic feet at 85 m.p.h. velocity. Why not write Tim Colvin, Besler Corp.,

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Of great interest to fruit growers is the new General Motors Hydra-Matic pickup truck. Of course, there is a complete line of GMC trucks in all sizes and for all jobs. If you are interested, write Ernest De Hart, GMC Truck & Coach Div., Pontiac, Mich.

### Three-Fourths Bushel



Many growers, like Vincent Caggiano, Sunny Slope Farms, Gaffney, S. C., have felt a three-fourths bushel basket would be advantageous. Last season Caggiano used the three-fourths bushel basket and found it saved time in packing and sold readily. If you would like more facts write E. P. Brown, Riverside Mfg. Co., Murfreesboro, N. C.

### Max-Min



Most fruit growers have to worry about frost at some time or other. One way to eliminate the grief suffered from frost damage is to have a Taylor maximum-minimum thermometer. The one pictured at the left is extremely accurate and yet is inexpensive. It helps predict frost by telling highest and lowest temperatures since the last setting plus the temperature now. Tiny steel-cored indicators inside the tube stay put until reset with a magnet. Every grower should have one, and if you would like full particulars, write W. W. Lockwood, Taylor Instrument Co., Rochester 1, N. Y.

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Gorman-Rupp pumps assure adequate water for this orchard.

Sufficient water supply for irrigation, as pictured below, results in a larger and better quality crop of potatoes.



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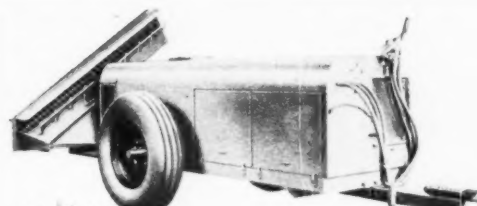
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apples, had no apple maggot, and worms were less than 1 per 1,000. After almost 30 years of trial and error, we finally have found a machine that applies the material the way we want it applied, and makes agreeable work of a dirty, distasteful job."

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## UNITED CORK COMPANIES

DEPARTMENT I-10

KEARNY, NEW JERSEY

BRANCH OFFICES IN PRINCIPAL CITIES

## WESTERN NEW YORK

(Continued from page 19)

fourths of the total apple production. It is hoped that the introduction of new varieties will serve to stabilize production.

### Tree Population

Surveys in western New York in 1952 indicate that Greening and Baldwin constitute about 40 per cent of the apple tree population and McIntosh about 15 per cent. New plantings are being made to Cortland, McIntosh, Red Rome, Delicious, and Greening, in that order. Baldwin and Wealthy are not being replanted. Last year 85 per cent of the McIntosh and Cortland were sold fresh and practically all of the Baldwin, Greening, and Ben Davis went to the processor.

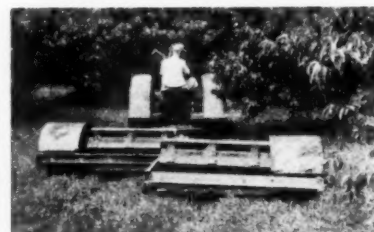
Since the time that it became an important commercial fruit area western New York has known the vicissitudes of three major depressions. From 1890 to 1910 fruit plantings and production increased rapidly. Depression came at a time when all the trees were bearing and fruit was wasted in great quantity. During the depression in the '30's many orchard enterprises were wiped out. The deep freeze of 1935, when temperatures went down to 30 to 40 below zero, eliminated thousands of acres of old Baldwin and Greening trees from profitable production. Relatively few plantings have been made since 1910. By the time-consuming process of elimination, plus scientific study, better soils are being located and these only are being planted to fruit.

Cost of operating fruit farms has increased faster than has the value of the land. The high cost of labor has forced mechanization and this has increased the amount of capital needed. This high cost of operation means that two poor years from any cause will generally put the grower out of business or seriously weaken him financially. Government programs, such as the school lunch, for this reason are looked upon with favor by many growers as one way of easing the situation caused by high production costs.

### Research and Education

One of the large contributions of New York to the fruit industry has been the research findings of the New York State Experiment Station at Geneva and the research programs at Cornell University which are now being co-ordinated. The Geneva station, which served as a model for many other institutions and which today also trains agricultural workers,

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AMERICAN FRUIT GROWER



**D**ID you ever see a youngster who did not enjoy a good apple? Did you ever hear a youngster ask for an apple rather than candy or ice cream?—They will, if they get the habit.

What has been one of America's biggest bumper crops in the last five or six years? Children!

Child experts tell us that eating habits are formed at an early age. Maybe that's why we always remember Mother's cooking as being so good.

Now the big question—Are apple growers and the rest of the apple industry making it really easy for youngsters to have apples?

Remember, it won't be long before today's youngsters are tomorrow's purchasers.—Arthur C. Bobb

was set up in 1880 by the New York State Legislature.

Through the years the Geneva station has been instrumental in developing methods of control of insects and diseases and in disseminating information on such control. It has also been conducting extensive programs on the breeding of better fruit varieties, the processing of food, and many other activities. For example, the work done at Geneva contributed vastly to the suppression of the codling moth.

Under the direction of Dr. A. J. Heinicke, an outstanding horticulturist and pomologist, the station now is developing its research and teaching program even more rapidly. The research program at Cornell University is devoted particularly to storage problems and marketing.

The extension service in New York is one of the most effective in the country in getting the results of research into field practice. County agents, trained in fruit work, conduct a specialized service closely correlated with specialists and research workers at Geneva and Cornell. As a goodly percentage of the growers operate on a small scale, the extension service has been able to keep the entire fruit industry in New York on a forward-going basis.

Growers have been helped with many of their problems by the 98-year-old New York State Horticultural Society and more recently by

*(Continued on page 48)*

APRIL, 1953

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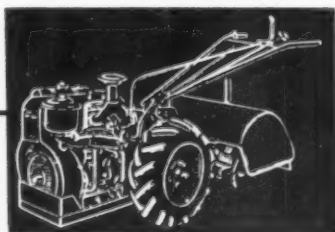
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## WESTERN NEW YORK

(Continued from page 47)

the Western New York Apple Growers Association. The latter was developed primarily for the promotion of apples and for market information service. We have high hopes, too, that the new grape co-operatives may pave the way for better marketing.

### Industry's Fountainhead

New York state, and particularly western New York, has through the years been a fountainhead for the development of the fruit industry all over the country. Symbolizing the many individuals who contributed to this great development is Liberty Hyde Bailey, Ithaca, N.Y., who on the occasion of the 90th meeting of the New York State Horticultural Society made this comment about the development of the apple:

"This morning I went to my cellar. I took up this apple. This is a Northern Spy. The Northern Spy originated over 100 years ago in East Bloomfield in Ontario county. A seedling orchard had been planted in 1800, from seeds brought in by settlers from Connecticut. One of these trees was peculiar in its growth and persons were interested in it. It never blossomed and never bore an apple, but propagation was made from it and the Northern Spy was the result. What was the genesis of the Northern Spy? What were the forces combined in that seed to produce this particular apple? I went out and took a branch from an apple tree. Here it is. Here are the fruit spurs and there an apple was borne this last year. And there was another, and there another, and there was a spur where an apple was not borne. That one failed. And this apple grew out of a twig of similar character and grew through the stem. It is a slender stem and I suppose the sunshine and the elements in the air do not have so much to do with making this Northern Spy as the nutrients that went through the stem. And what was that nutrient, and how was it combined that it did not make a King or a Baldwin? And, how has it been that during all these one hundred years the Northern Spy has good production with fair degree of exactness from a tree that has never borne a Northern Spy? Thousands and thousands of Northern Spy trees are now growing in the north, not one of which is on its own root. With my knife I can take off the bud, which I can pulverize in my hand, and yet I can bud it on any stock, and out of that comes the Northern Spy. How do all these elements combine thus to make this

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apple and no other kind of apple? The basin, in the end, is the remains of the stamens and pistils. If I cut it lengthwise, I shall find a core; if crosswise, ten cells, each with two seeds all perfectly developed.

"The Northern Spy has maintained itself for a century. What has happened in that century? The same thing that has happened to this Society. The Northern Spy was recognized by pomologists in 1845, and recommended as a worthy apple to grow. 1845 was the year of President Polk of the United States. The Mexican trouble was then fermenting. And there was added to this Nation California and Oregon in Polk's administration. Then Oregon was settled, and the United States became a continental power. Since that time there has been the great Civil War. I remember the assassination of Lincoln. We had all the Indian wars. Then after the Spanish War came the first World War, and now the greatest catastrophe of them all. And in all these one hundred years the Northern Spy has maintained itself."

Western New York, one of the oldest areas in the country for fruit growing, has met the challenge of change and will continue to be a very important area of production of delicious fruits to meet the demands of its growing population. THE END

## APPLE RUST

(Continued from page 20)

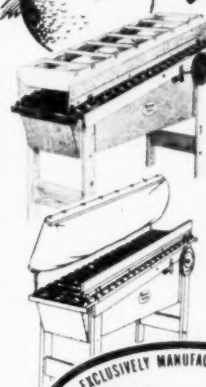
follow much the same cycle but this fungus infects only apple leaves. In contrast, spores from the quince rust cankers form relatively few spore-producing structures on apple fruits and tiny spots but no spores on the leaves.

There are strains of all these rusts that attack varieties normally considered immune and extensive host lists are apt to be confusing. The varieties Rome Beauty and Wealthy appear to be susceptible to all three rust fungi, while York, Grimes Golden, Ben Davis, and Jonathan are infected by the cedar-apple and hawthorn rusts. The varieties Cortland, Delicious, McIntosh, Stayman and Winesap are particularly susceptible to quince rust fungus.

The fruit ceases to be susceptible to infection by the cedar-apple and quince rusts shortly after the petals drop, but young leaves may be infected by all three rusts until mid-summer. The cedar-apple rust frequently causes serious damage to fruit and severe premature defoliation, whereas the quince rust damages only the fruit and hawthorn rust occasionally causes severe premature defoliation.

Control. Since spores of these fungi are spread from cedar to apple, one obvious control measure is to eliminate the cedar trees. This is practical only in localized areas where all the cedars can be eradicated, for infected cedar trees within two to four miles of an apple orchard can cause a serious outbreak of rust. Most effective and practical control measure is to spray the apple trees with ferbam at the rate of one to one and one-half pounds in 100 gallons of water at the pink, petal fall, and 10-day stage in the spring or to combine one-half to three-fourths pound of ferbam with six to eight pounds sulfur for apple scab and rust control.—John C. Dunegan, USDA

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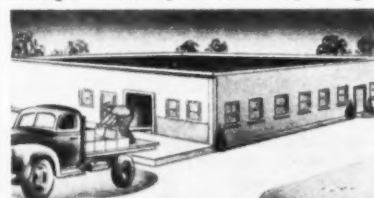
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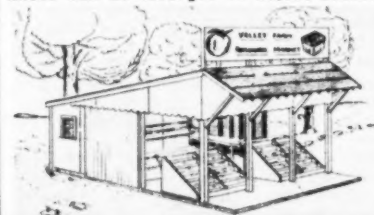
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## Book Reviews

● **Hanna's Handbook of Agricultural Chemicals** (\$3.25) by Lester W. Hanna. The author of this pocket-sized 209-page handbook is a research entomologist and agricultural technician for a prominent frozen food processing corporation and has had over 25 years' experience with agricultural chemicals. His handbook contains descriptions of over 500 commercial chemicals—fertilizers, fumigants, fungicides, weed killers, insecticides, rat killers, and miscellaneous materials—used in the agricultural industry.

● **Nut Growers Handbook** (\$4.00), *Orange Judd Publishing Co.*, by Carroll D. Bush. This revised edition records the up-to-date findings of workers who have spent years in this field. Propagation, planting, cultivation, harvesting, and marketing of nuts are subjects covered in its 199 pages.

● **Propagation of Plants** (\$4.50), *Orange Judd Publishing Co.*, by M. G. Kains and L. M. McQuesten. The 650 pages of this revised and enlarged edition contain hundreds of drawings and photographs illustrating the various methods of propagation.

Orders for books on fruit growing and allied subjects may be sent to **AMERICAN FRUIT GROWER**, Willoughby, Ohio, with check or money order.

## NUT GROWERS MEET

**M**EMBERS of the Michigan Nut Growers Association recently held their second annual winter meeting at Michigan State College, East Lansing.

This group was organized as an affiliate of the Northern Nut Growers Association in 1952 and its growth in the past year has been phenomenal. More than 50 members have joined the MNGA in the past year. Many of them are growers from other states.

An interesting feature of the meeting was an excellent display of the many kinds of nuts being grown in Michigan, including 50 varieties of English walnuts, hickory nuts, black walnuts, Chinese chestnuts, and hicans.

New officers of the MNGA elected at the meeting are E. W. Lemke, Washington, president; Lee Somers, Perrinton, vice-president; M. L. Wyman, Highland Park, treasurer; and A. L. Barlow, Detroit, secretary.

A field day and picnic are planned for next August at the home of E. W. Lemke, Washington, Mich.—J. E. Moulton.

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500 GAL. POWER TAKE OFF HARDIE SPRAYER IN good condition at a bargain price. ELMER WHITFORD, Farina, Illinois.

BUFFALO TURBINE SPRAYER-DUSTER. USED very little. \$500. P. V. MOOT, Wilson, N.Y.

FRIEND 400 GAL. SPRAYER W/V4 WISCONSIN engine. Nearly new. A real bargain. VALLEY FARM SUPPLY, Dover, Ohio.

HARDIE SPRAY MACHINE. 20 GAL. PUMP. 300 gal. tank. 25 horse power motor. O. L. GOLDEN, 115 E. Sale St., Tuscola, Illinois.

SPEED SPRAYER, NIAGARA DUSTER, LATE MODEL, good condition. CORY ORCHARDS, Cory, Indiana.

### FOR SALE—ORCHARDS

BLUEBERRY PLANTATION. 80 ACRES, 45 ACRES planted to the best varieties. Mostly Jersey and Rubel. 600 gal. sprinkler irrigation. Tiled land. Tile barn and complete shop. 20 cabins, office, 5 packing sheds. Picking and packing equipment for 300 pickers. Tractors, disc, harrow, etc. Irrigation pond, 11 wells. No marketing problem, all fruit marketed by Michigan Blueberry Assn.

clation. Dusting also by association. With Plantation 70% in production, last year's gross \$70,000.00. Located 10 miles East, 1/4 mile South of South Haven, Mich., 1/4 mile from Mich. Blueberry Assn. warehouse and loading platform. JONES BROS., R. 1, Dowagiac, Michigan.

LANDSCAPING AND/OR TREE SURGERY BUSINESS with or without equipment. TREE SERVICE, Box 705, S. Norwalk 17, Conn. A goldmine for a live wire.

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TOBEY'S 260 EGG REDS; LEGHORNS, CHICKS 20c. TOBEY, North Billerica, Massachusetts.

PEAFOWL, SWANS, PHEASANTS, GUINEAS, BANTAMS, DUCKS, geese, 30 varieties pigeons. JOHN HASS, Bettendorf, Iowa.

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GEES—LABOR SAVERS—WEEDING NUT and fruit orchards, berry, cotton, tobacco, evergreen plantings; eradicating cattails from ponds, etc. Delicious table fowl. All purpose breeds—utility and beauty. Offered by SHALIMAR FARMS, RG 5, Medina, Ohio.

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HELP WANTED—EXPERIENCED, DEPENDABLE orchard man. Modern apartment furnished. W. L. ALLEN, Geneva, Ohio, Route 3.

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"HOW TO BREAK AND TRAIN HORSES"—A BOOK every farmer and horseman should have. It is free; no obligation. Simply address BEERY SCHOOL OF HORSEMANSHIP, Dept. 1384, Pleasant Hill, Ohio.

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PAINT BUILDINGS, ROOFS, FENCES, EASY, QUICK and cheaply using our water emulsifiable paints in farm sprayers. Write VERSATILE PRODUCTS, Mfrs., Pine Brook, N.J.

PAUZE LIQUID STYPTIC STOPS BLEEDING QUICKLY. 1/4 oz. bottle 25c. PAUZE, 1545A Echo Park Ave., Los Angeles 26, California.

WINES: MAKE YOUR OWN FROM GRAPES, RAISINS, berries. No special equipment needed. Printed directions. 26c coin. TIMBERLAKE ENTERPRISE, Box 1401, Denver 1, Colorado.

CHURCH GROUPS—RAISE FUNDS EASILY! FREE Catalogue Complete credit. Our 30 useful, unusual money-makers. Bob Products, Dept. 532, Oronota, New York.

### MONEY MAKING OPPORTUNITIES

MAKE MONEY ADDRESSING ENVELOPES. OUR instructions reveal how. PAUL GLENWAY, 5713 Euclid, Cleveland 3, Ohio.

BIG PROFITS WEAVING RUGS—SEND 10c FOR OUR catalog, sample card and low prices on carpet warp, rug fillers, looms, parts, inexpensive beam counter. If you have a loom, give make and width please. OR. RUG COMPANY, Dept. 3363, Lima, Ohio.

YOUR ROADSIDE MARKET WILL MAKE YOU MORE money if you feature House's Concentrated Fruit Drinks: cherry, orange, grape and black-raspberry. Easy to make for home use or for sale at your roadside. One tablespoonful concentrate, one and one-third cup sugar to one gallon ice water. Shake well. Nice for parties. Children cry for it. One pint will make fifteen gallons. \$1.50 per pint. Satisfaction guaranteed. Postpaid. HOUSE'S CHERRY CIDER COMPANY, Saugatuck, Michigan. "It's the best I ever had."

### VEGETABLES

RUTGERS TOMATO PLANTS GROWN FROM CERTIFIED seed on new land \$2.25 per 1,000. Black Beauty egg-plant plants \$3.00 per 1,000. California Wonder pepper plants \$3.00 per 1,000. All plants shipped Express collect. HAROLD HYERS, Hazlehurst, Georgia.

SWEET POTATO PLANTS, NANCY HALLS, PORTO RICANS. Quick shipments. Carefully packed. Planting guide free. 200, \$1.50; 500, \$2.50; 1,000 \$4.00. TAYLOR PLANT CO., Gleason, Tenn.

## CORN CENTER DOIN'S



"That pore fox don't have a chance since I em got them fast-workin' Power-Curve tires!"

Every turn of a B. F. Goodrich Power-Curve tractor tire counts for positive traction! The curved cleats take a firm grip on the soil to give you full power in reverse as well as forward. No spinning wheels to waste your time and fuel. You work more land per hour because husky Power-Curve cleats dig into the soil easily, assure you of maximum drawbar-pull. Dirt falls from

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An advertisement of The B. F. Goodrich Company, Akron, Ohio

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OUR INSTRUCTIONS REVEAL HOW  
GLENN GLENWAY 5713 EUCLID AVE., CLEVELAND 3, OHIO

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AMERICAN FRUIT GROWER for One (1) Year and Your Choice of Any Two of the Following Magazines for ONLY \$2.50

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AMERICAN FRUIT GROWER

# The Orchard Home

EVERYONE likes a luscious fruit salad. Salads made with fruit, meat, and a vegetable, such as the Grapefruit Meat Slaw pictured at the right, can be used readily for the main course. Incidentally, this is a marvelous way to use your leftover meat. With your main course salad, you might like to serve piping hot soup, homemade biscuits, and your favorite dessert.

Then there are those salads which are served along with the meal. Many types of molds are now available to make your molded gelatin salads look attractive.

Two things to remember when serving any salad: First, always use fresh, crisp lettuce, watercress, or endive. Second, be sure to select the proper salad dressing.

Recipes for Grapefruit Meat Slaw and other fruit salads plus recipes for fruit salad dressings are given below:

## GRAPEFRUIT MEAT SLAW

- 1 cup salad oil
- 1/4 cup vinegar
- 1 teaspoon salt
- 1 teaspoon dry mustard
- 1 teaspoon paprika
- 1/2 teaspoon Worcestershire sauce
- 1/2 teaspoon sugar
- Few grains pepper
- 1 teaspoon grated onion
- 2 cups cubed cooked meat
- 4 cups shredded cabbage
- 2 cups grapefruit sections
- Watercress

Combine salad oil, vinegar, salt, mustard, paprika, Worcestershire sauce, sugar, pepper, and onion. Beat with rotary beater until well mixed. Chill 15 minutes. Pour dressing over meat. Chill 15 minutes. Drain meat, saving dressing. Combine dressing with cabbage. Pile cabbage in salad bowl. Arrange meat in center on cabbage. Around edge of bowl arrange grapefruit sections and watercress. Serves 6.

## FRUIT CUP SALAD

Place dried figs in top of a double boiler and heat, covered, over hot water for 5 minutes. Allow three figs to each serving.



Choose some large grapefruit, allowing half a grapefruit for each serving. Carefully scoop out grapefruit, cutting away and discarding all white membrane. Carefully cut grapefruit sections into delicately thin slices. Snip off stems of figs and then trim them into thin strips about an inch long. Core apples, allowing half an apple for each serving. Cut into small bits, without peeling. Combine with grapefruit and figs.

## Dressing

Make a dressing of strained honey and salad oil in equal quantities, adding a little salt and pepper. Drench fruit with dressing and place in bowl to chill. When ready to serve, refill grapefruit shells and place on bed of shredded lettuce or endive.

## CHERRY-TIME SALAD

- 1 cup sweet cherries, pitted
- 1 cup cantaloupe wedges
- 1/2 cup avocado wedges
- 1 cup fresh grapefruit sections
- 1/2 cup French dressing, thinned with grapefruit juice
- Lettuce

Wash, stem, and pit cherries. Combine with other fruits. Arrange in lettuce cups. Serve with French dressing.

## APPLESAUCE GELATIN SALAD

- 2 1/2 cups very thick, unsweetened applesauce
- 1 envelope gelatin
- 1/2 cup cold water
- 1/2 teaspoon cinnamon
- 1 cup sugar
- 2 tablespoons lemon juice
- Red food coloring

Bring applesauce to boil. Add sugar. Soak gelatin in water 5 minutes and add it and lemon juice to applesauce. Stir until well mixed and sugar is dissolved. Add as much coloring as necessary to make a deep red. Pour into large or individual molds.



Chill. Serve on lettuce leaves.—Lettie B. Ritchie, Weyauwega, Wis.

## HIT SALAD

- 2 cups cold roast meat
- 2 cups orange sections
- 1/2 cup diced celery
- Salad greens
- Toasted almonds

Cut meat. Add orange sections and celery. Serve on greens with mayonnaise and almonds. — Christena Smith, Tahlequah, Okla.

You might like to try the following fruit salad dressings:

## APPLE JUICE SALAD DRESSING

- 1/4 cup sugar
- 2 tablespoons cornstarch
- 1/4 teaspoon salt
- Juice 1 medium-size lemon
- 1 cup apple juice
- 1 egg, well beaten
- 1 3-oz. package cream cheese

Mix dry ingredients, add fruit juices and egg blend. Cook over hot water 20 minutes, stirring often. Add mashed cheese, beat. Chill.

## FRUIT SALAD DRESSING

- 1 cup pineapple juice
- 1 cup orange juice
- 1/2 cup lemon juice
- 1 cup sugar
- 3 egg yolks
- 2 tablespoons cornstarch
- 1 tablespoon butter

Mix juices and sugar in top of double boiler. When hot, add egg yolks which have been blended with cornstarch. Cook until thick (15 to 20 minutes), stir in butter. Serve plain, or folded into whipping cream for fruit salad topping.

## THE TOWN AND COUNTRY SUIT

For spring and town and country wear, the trim princess line suit becomes the basic beauty of your wardrobe. Superbly fitted from shoulder to hemline, this suit narrows the figure and keeps it looking shapely. Bound slit pockets are featured in the jacket

seams to emphasize the vertical lines. Wear it in a lightweight wool or a crease-resistant linen. Size 16 requires 3 1/4 yards of 54-inch fabric with or without nap. Advance Pattern 6346. Sizes 12 to 42. Price 35 cents.

Send order and cash for patterns to Pattern Department, American Fruit Grower, Willoughby, Ohio. Be sure to specify size. Print name and address clearly.

# American Fruit Grower

RICHARD T. MEISTER, Editor  
H. B. TUKEY, Associate Editor

• Fruit for Health •

## Watch the Economic Level

WITH ALL our concern about production, marketing, and the details of the fruit industry itself, we are likely to overlook the biggest single factor affecting profit and loss, and that is the general economic level of the country, indeed, of the world.

For one thing, figures show that high-income groups eat heartily of fruits, vegetables, and dairy and poultry products and look with scorn on beans, potatoes, cereals, and similar high-energy foods. On the other hand, the low-income groups use large amounts of the latter and smaller amounts of the former. This in itself should be enough to satisfy fruitmen that solely from the standpoint of the pocketbook they prefer to see high wages and full employment for the man who is to consume his products.

Some figures that make encouraging reading along this line show that America is developing a large, new middle-income group, fewer very high incomes, a substantial increase in high middle class income.

For example, in 1951 the \$1,000 to \$2,000 income group was 15 per cent compared with 24 per cent in 1929, and the \$4,000 to \$5,000 income group had risen to 15 per cent from six per cent in 1929.

At the top of the ladder, the income group over \$7,500 had reached only seven per cent in 1951 compared to six per cent in 1929. Perhaps this is what is back of the general high level of consumption of fruits and vegetables and the protective foods.

At all events, the time has passed when growers could sit quietly and provincially alone in Fitchburg, New Paltz, Lakeland, Weslaco, Riverside, Toppenish, Centralia, and Sodus and let the rest of the world go by. What happens in Korea is important to the pocketbook of Mr. Fruit Grower. What happens to taxes, to defense spending, to steel production, to labor strikes, to management—all of these are significant and important. The idea that we are living in one world is fundamental—and the fruit grower is a part.

## The Northern Nut Tree— A Forgotten Cousin?

ONE of the most interesting horticultural reports we have seen is published by the Northern Nut Growers Association. Their annual meeting, held the last week in August of each year, brings together 100 or more nut tree enthusiasts who exchange ideas, give talks, and informally discuss nuts from pecans to chinkapins.

The annual report is a resumé of the meeting and includes speeches, opinions, and practical observations on the different phases of nut culture.

Meetings like this and the annual reports are of inestimable value. To the group of nut tree enthusiasts who make up the Northern Nut Growers Association goes the lion's share of credit for preserving and spreading our wonderful natural nut heritage in the northern areas of the United States. Every nut grower should be a member to help this worthy movement and to make available to others his observations and experiences.

Unfortunately, the association is having a hard time making both ends meet. Rising costs may limit

the size of its annual report and curtail its activities. The association needs members, and we strongly urge those interested to write the secretary, Spencer B. Chase, Norris, Tenn., regarding membership, which is only \$3 a year, and thus help preserve our natural resource of native nuts for ourselves and our children.

## Fruit Growing is Such Fun!



## Fruit Talk

A large hydrocooling unit employed in Florida will precool two carloads of celery an hour. From cutting in the field to packing in a car has taken an average of two hours for celery and one hour for corn on the cob. This is the trend—to remove field heat soon and rapidly.

Beauty Gem and Dixieland are one and the same according to J. T. Bregger of South Carolina.

H. V. Taylor, in presenting the 1951 Maxwell Masters Lecture (England) suggests: "... keep the research going, for this abundant use of chemicals is disturbing, and it may well be that the very chemicals now being used to overcome some problems may create new ones that only further research work can solve."

Fungicidal chemicals used in the United States in 1952 are placed at 212 million pounds, of which 180 million are sulfur, 21 copper, 2 quinonea, 1 heterocyclic nitrogen compounds, 8 carbamates, and .1 mercury compounds.

News from the processing field is that the mold count can be reduced appreciably on strawberries by washing the fruit with certain detergents.

At the friendly urging of Frank Street of Henderson, Ky., the classic "Eighty Winters in Michigan Orchards" by Bradford and Cardinell has been reprinted.

Dr. Firman Bear of New Jersey recommends that every ton of fertilizer sold in New Jersey should carry not less than five pounds of borax.

Growing and harvesting costs per box of apples in Washington state on a 514-box yield basis were 44 cents in 1940 and \$1.18 in 1950. Fertilizing was \$12.64 per acre, pruning \$31.71, thinning \$51.52, spraying \$53.61, irrigating \$20.42, harvesting \$158.47, "other" \$273.12, for a total of \$601.49.

One of the leading can manufacturers, in a two-page advertisement, contends that the evolution of the strawberry basket is in the direction of a properly enameled tin can in which frozen berries are hermetically sealed!

A semi-mechanical method of packing lemons by volume instead of count is reported from California to make it possible for a single girl to pack 10,000 fruits per hour instead of the usual 1,600.

"How busy is not so important as why busy. The bee is praised; the mosquito is swatted."

H.B.T.

## Coming Next Month

- How NAA Thins Fruits
- Hormones for Weed Control
- Keeping Buttons on Citrus
- Bigger Grapes with Hormones
- Hormones Prevent Cracking of Cherries
- Preventing Preharvest Drop
- Blossom Delay the Hormone Way
- Maleic Hydrazide on Peaches
- Overcoming Biennial Bearing with Hormones

AMERICAN FRUIT GROWER



## "My Dodge truck does a wonderful job"

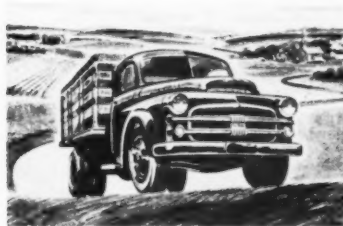
... says **ROBERT W. BROWNING**  
350 Hoskins Road, Bloomfield, Conn.

"In my farming I can't move without a good truck. My Dodge truck does a wonderful job. I use it for every purpose you can think of, and it never lets me down. There is plenty of reserve power for even the biggest loads. Another thing that is important to me is the way the Dodge can get in and out of tight places. We real working farmers know that a truck for general farm work must have really good maneuverability. I plan to buy another Dodge truck when this one needs replacement, but that probably won't be for awhile because of the way the present one is standing up."

\* \* \*

Real, down-to-earth farmers like Mr. Browning buy trucks on proved facts, not promises. No doubt you're a careful buyer and like to get the most for your money, so better see your Dodge dealer. He's a reliable businessman; he'll give you hard facts, honest value. Visit him next time you're in town.

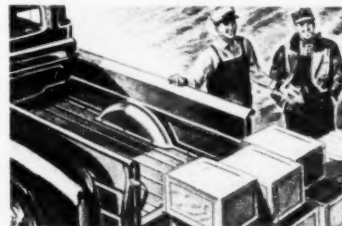
**New Dodge "Job-Rated" trucks give you even more for your money!**



**More horsepower, more braking power:** 100 to 171 h.p., with proved Dodge economy through the line. Stepped-up braking, less pedal pressure in 1- through 2½-ton trucks. Dodge-Tint glass, new heaters available on all models.



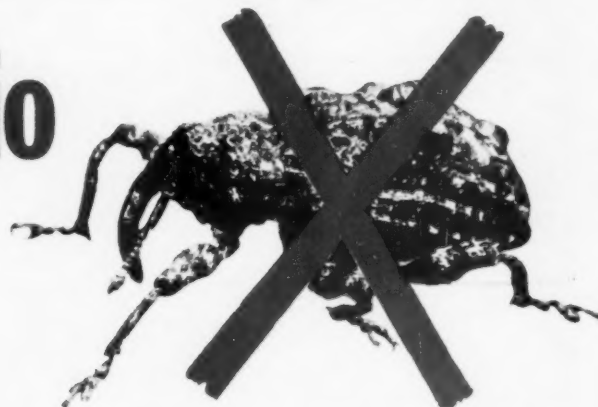
**New, no-shift transmission:** Truck-o-matic transmission with glycol Fluid Drive available in ½- and ¾-ton trucks! Saves gearshifting, retains clutch for rocking out of mud, snow. Dodge is easier to handle than ever!



**New, longer ½-ton pick-up:** New 116" wheelbase ½-ton pick-up has a foot more of load length... carries bulkier loads, has better traction. New tighter tailgate sealing on all pick-ups and expresses. See your friendly Dodge dealer.

# DODGE "Job-Rated" TRUCKS

# Kill Curculio with



# Du Pont MARLATE®

*Methoxychlor Insecticide*

You can depend on "Marlate" methoxychlor for excellent control of curculio. Year after year, "Marlate" gives consistently high kill of curculio—one of the most destructive and difficult fruit insects to control.

"Marlate" methoxychlor gives protection early and late. Avoids scarring of the fruits in egg laying, prevents fruit drop and worm infestation. "Marlate" won't burn the foliage, and although the residue gives long-lasting results, it is no hazard to persons who eat the fruit, even when spraying is done close to harvest.

You can get excellent control of other insects, too, including Oriental fruit moth, apple maggot, Japanese beetle and cherry maggots.

See your supplier now for "Marlate" 50% technical methoxychlor insecticide and other tested and proved Du Pont pest-control chemicals, or write Du Pont, Grasselli Chemicals Dept., Wilmington, Delaware.



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*On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.*